



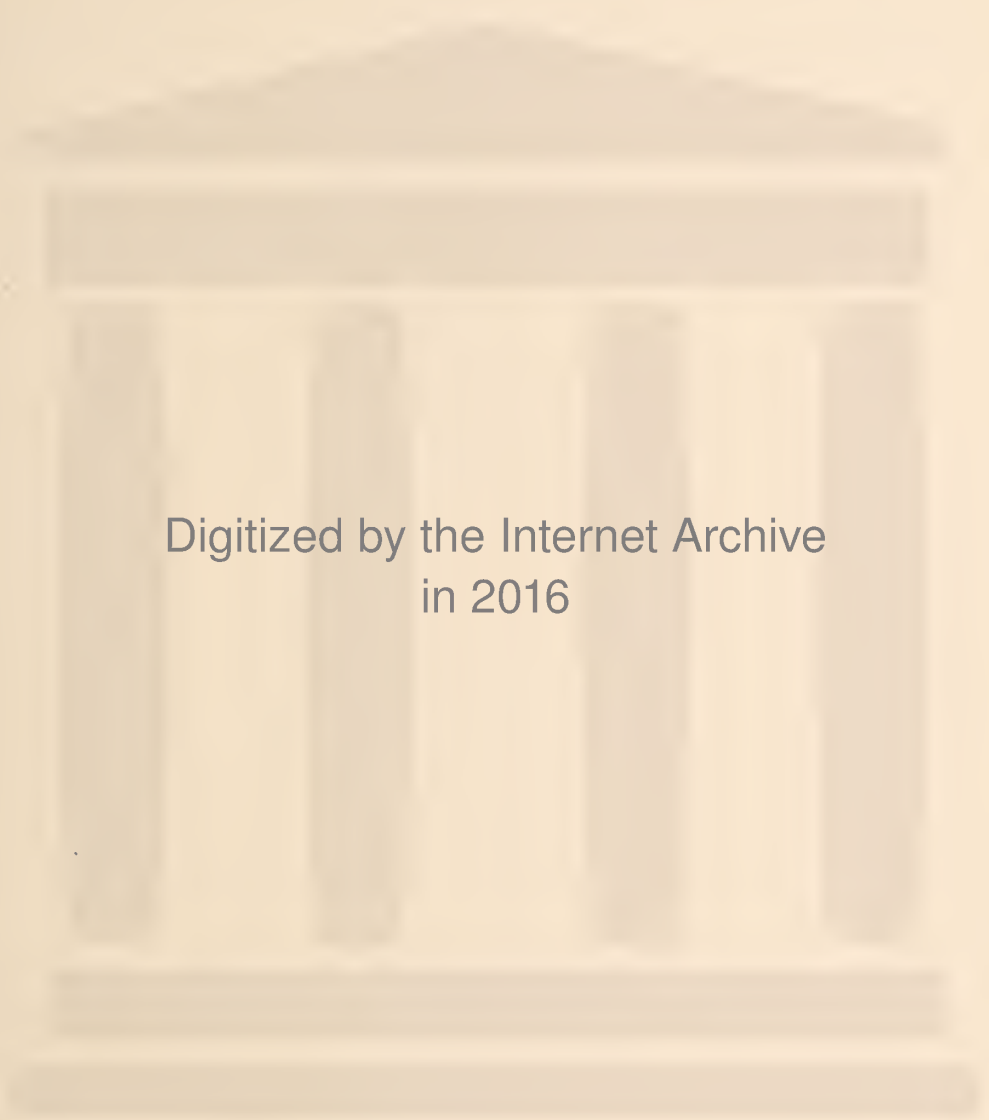
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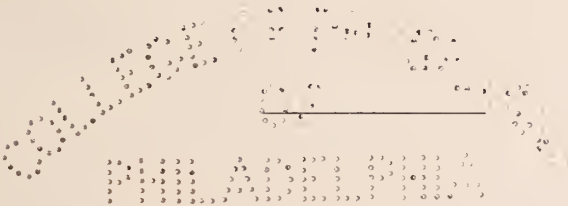
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No. 1

CANCER OF THE BREAST--REMARKS ON THE NECESSITY FOR EARLY, RADICAL OPERATION*

BY J. CLARK STEWART, M. D.

Professor of the Principles of Surgery, University of Minnesota

MINNEAPOLIS

It is admitted by all surgical authorities that at least twenty-five per cent of the average run of cases of cancer of the breast can be cured by a radical surgical operation. If I were to venture a guess I should say that not over five per cent of the cases of mammary cancer occurring in Minnesota or in other states, outside of the clientele of a few great hospitals, are cured. The others of the curable twenty per cent are allowed to die by neglect or are condemned to die by bad operative procedures.

The responsibility for this state of things is divided between the non-operating general practitioners and those who operate without being qualified or willing to perform the extensive surgical procedure necessary for success against malignancy. The general practitioner fails to make early diagnosis and refer his patients to skilled men, and often becomes honestly skeptical as to the results of any surgical treatment of cancer on account of his personal observation of the results of poor operating on good cases and of good operating done too late. The laity shares his prejudice, and, aided by the long list of irregular cures which do not cure, but which are exploited as better than surgery, they condemn the knife and turn to the surgeon only when it is too late for relief.

The remedy for this state of things is education, first, of the profession, until no practitioner

can honestly doubt the surgical curability of cancer of the breast, and until untrained operators will no longer attempt operations where success does not depend upon asepsis and prompt wound-healing, but upon the systematic performance of a carefully planned operative procedure and the meeting of emergencies as they arise, the prime condition being not rapidity or cosmetic effects, but the thorough removal of all diseased tissues in a manner shown by experience to be most successful; and, second, the laity must be as carefully and thoroughly instructed on this subject as it has been upon appendicitis and gall-stone disease, ailments with only a small probable mortality as compared with cancer, where every untreated case must pass through years of suffering to a lingering and horrible death.

All breast tumors in women over thirty should be promptly referred to a surgeon, as the great majority of such tumors will prove to be malignant, and successful treatment will often depend upon making an operative diagnosis by an exploratory incision before cancer can be demonstrated by any form of physical examination. Once teach the women of the land that any innocent-appearing lump in the breast is likely to be a cancer, and convince them that early operation affords a fair chance, and the only one, of a cure, and our operative results against this disease will be immensely improved. Secrecy on the part of the patient, backed up by indifference or ignorance on the part of the general

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practitioner, has caused the death of countless sufferers from mammary cancer. No practitioner has the right to be either ignorant or indifferent, or to exploit personal views contrary to well established facts, for by so doing he unthinkingly assumes an awful responsibility for the lives of those of his patients having cancer of the breast, who might attain cure if properly advised.

The following table gives the percentages of occurrences of the various breast diseases, by decades, compiled from some thousand cases observed in the Massachusetts General Hospital by J. Collins Warren and in the Johns Hopkins Hospital by Bloodgood:

TABLE OF BREAST TUMORS
PROPORTIONS AND AGES BY DECADES

	Mass. Gen. Hosp.	Age							Johns Hop- kins Hosp.
	%	20	30	40	50	60	70	80	%
Carcinoma.	68	..	12	60	70	85	92	100	72
Myxoma...	..	..	10	1	2	2	..	..	..
Fibroma...	9	..	..	..	..	..	..	..	..
Fibro-cyst-adenoma.	..	45	50	11	2	6	..	..	..
Papillary	2	..	2	2	..	..	..	..	3
cyst-adenoma.	..	..	..	1	1	1	3	..	..
Diffuse hypertrophy.	2	11	..	..	½	..	..	..	..
Abnormal involution	15	..	13	18	21	8	2	..	?
Eczema of nipple....	0.2	..	..	..	..	1	..	..	..
Chronic infective mastitis...	1	..	4	2	2	0.6	..	..	3
Cyst.....	1	..	4	1	1	..	..	..	6
Sarcoma....	1	..	..	2	1	..	1	..	..
Miscellaneous.....	0.6	1	1	..	..	0.6	1	..	7
Tuberculosis.....	2	33	6	3	2	..	..	..	2
Dermoids..	?	..	..	..	..	..	..	..	(1)

This table shows sixty-eight and seventy-two per cent, respectively, of all cases of tumors of the breast observed in these two large hospitals to have been cancer, while twenty per cent more were fibro-epithelial tumors and abnormal involution, both of which conditions often furnish a starting point for adenocarcinoma.

The table also shows that so large a proportion of these conditions occurs in patients of thirty years or older that practically all tumors occurring in the breasts of women of this age can properly be considered as cancer and so treated. All such cases should, on discovery, be at once submitted to an exploratory operation, and the exact pathologic diagnosis made at the operating-table by naked-eye examinations or by microscopic examination of frozen sections, and the operation then completed according to the diagnostic findings. In the purely benign fibro-

mata, myxomata, and a few cysts, the removal of the tumor will suffice, while in the more epithelial adenomata and in abnormal involution, amputation of the breast is probably the best procedure. In the infiltrating adenomata, adenocarcinomata, and all carcinomata proper, no matter how small, a complete, radical operation must be done.

All radical operations against malignancy must embody certain definite indications. These are the removal of the tumor with a sufficient amount of the surrounding tissues to ensure the removal of all outlying infiltrations, the removal of the neighboring lymph-nodes and their connecting lymphatics without section, and the closure of the wound for primary union, using Thiersch grafts if the loss of skin makes this necessary. The radical breast operation beautifully fulfills all these conditions, and when done early it affords a high percentage of cures.

There are several forms of this procedure, but all unite on certain points which are imperative if good results are to be obtained. These points are often in part violated by skilled surgeons, sometimes with impunity, but in a series of cases with regularly disastrous results.



Fig. 1.—Case 1. Neglected medullary carcinoma of breast.

These essentials are—

1. The removal of the breast without disturbing its attachments to overlying skin or underlying fascia and muscles, which means that all the skin covering the breast must be sacrificed.
2. The removal of the pectoral fascia and both muscles still attached to the breast.
3. The removal of the axillary lymph nodes, fat, etc., by a clean dissection.
4. The avoidance of any cross-section of infiltrated tissues, and especially of the lymphatics

leading from the breast to the axilla, this being a precaution necessary to avoid the not rare local implantation of cancer during operation.

5. Perfect hemostasis.

6. Wound closure and healing by first incision, utilizing Thiersch grafts if necessary, as is generally the case where the operator does not err by trying to save too much skin.

Halsted was the first American to systematize this operation and to teach the profession the remarkably good results which could be attained by its use, and these results have not as yet been surpassed. His original operation has never become popular, largely on account of the time and skilled assistance needed to perform it as done by him, and other methods embodying the same essential points have come into more general use. Prominent among these is the operation of Willy Myer, of New York. This differs from the Halsted operation mainly in the primary incision and in the fact that the dissection begins at the axilla, the breast being removed last, thus avoiding the multiple ligations of the same vessels, which so lengthen the Halsted procedure. The tissues removed are the same in both, but

major, and suture it across the axilla and so protect the great vessels.

The results of these radical operations are wonderfully good when one considers the lateness at which the patients treated have sought surgical aid. There is practically no individual operation mortality, the few deaths recorded arising from conditions incident to any operation,—anesthetic accidents, sepsis, etc.

In all statistics of malignancy a non-recurrence within three years has been considered a cure, it being understood that there is a small number of later recurrences which will slightly reduce the percentages given. Halsted's first series of cases reported gave forty-two per cent of non-recurrence within three years, and his later statistics are fully as favorable. Willy Meyer reports twenty-six per cent well at four years. J. Collins Warren reports twenty-six per cent in his whole series of cases, and subdivides according to pathologic diagnosis, stating that Paget's

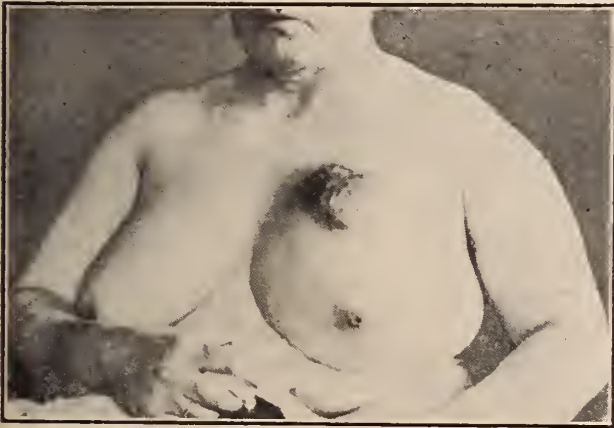


Fig. 2.—Case 2. Neglected endothelioma of breast.

an average operator, with ordinary assistance, can easily do the Meyer operation in one-half the time needed for the Halsted.

Mutilation and subsequent disability are often urged against these operations, but this is only on argument against poor technic, for either procedure will give a useful and very little disabled arm if the original incision is properly located and the dressings are so adjusted as to obtain proper healing. Swelling of the arm after convalescence is a trouble rarely seen except in the patients of surgeons who do a good deal of blunt dissection in the axilla, and in cases with early axillary recurrence. To avoid this complication from pressure of scar-tissue, Murphy has recently proposed to preserve a portion of the pectoralis

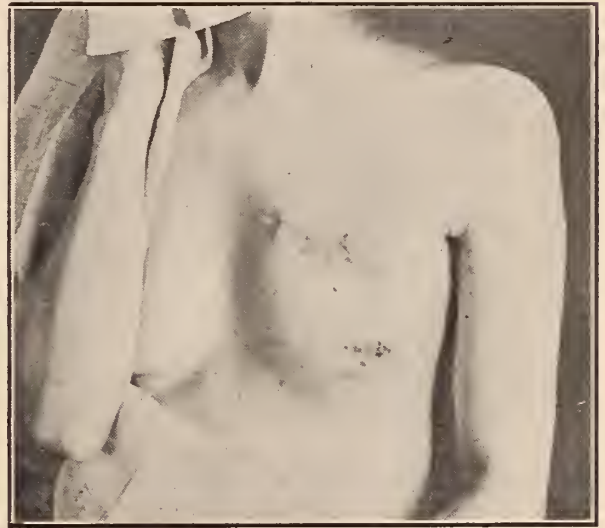


Fig. 3.—Case 3. Showing skin recurrences after incomplete operation.

disease of the nipple and colloid cancer have given one hundred per cent of cures, adenocarcinoma sixty-six per cent, and scirrhous forty-seven per cent, while medullary cancer gives only seven per cent, which is strictly in relation to the known comparative malignancy of these forms.

Case 1.—Medullary carcinoma of breast. Came into my City Hospital service in the condition shown in photograph (Fig. 1). Condition due partly to personal secrecy about disease, but largely to bad medical advice, postponing entrance into the hospital. Radical operation done purely as a palliative measure.

Recurrence and death within one year.

Case 2.—Endothelioma of breast. (Fig. 2.) Patient had noticed tumor for six months, but

was told by the only physician in a town within thirty miles of Minneapolis that it was only a manifestation of the change of life, and a greasy application was ordered.

Breast amputated to prevent open ulcer. Died within six months of lung metastases and multiple recurrences in glands and in the other breast.

Case 3.—This patient was operated upon early by a general practitioner in a southern Minnesota town of 6,000, merely the breast being removed by a transverse incision. She was told that there was no danger of recurrence and that she need not look for any or pay any attention to any lumps that might appear. Her condition as shown by the photograph (Fig. 3), is that of recurrence in the axillary lymph nodes, in the scar and in the skin and subcutaneous tissue below the scar. She also had deeper metastases.

This operator certainly condemned the patient

ice, and a radical operation was performed without the sacrifice of the skin over the lower and inner part of the breast. The microscope showed an adenocarcinoma just at the axillary edge of the breast. The nearest lymph nodes along the thoracic wall were involved, but those along the axillary vein were healthy.

The second picture (Fig. 6), taken three weeks after the operation, shows the free mobility of the arm at that time.

SUMMARY

Cases of cancer of the breast are neglected and badly advised because many of the profession do not admit, or do not know, the facts as to the curability of this disease by operation.

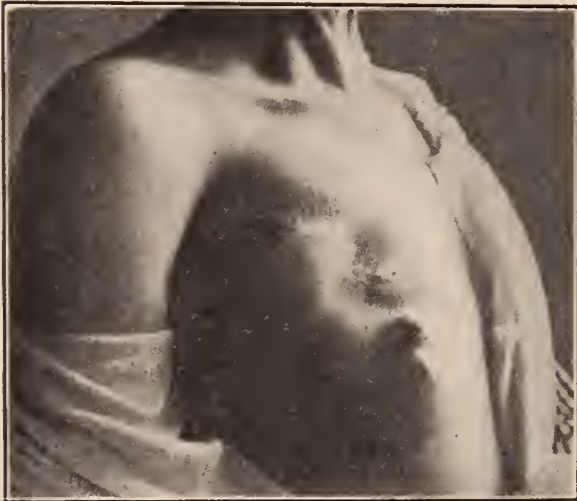


Fig. 4.—Case 4. Recurrences in skin that should have been removed at operation.

to a sure death when he did the original imperfect operation, and especially when he added such criminally bad advice as to the future.

Case 4.—The photograph of this case (Fig. 4) illustrates the common mistake of not removing enough skin, a fault that most operators commit to a greater or less extent. Here, after a complete dissection of the axilla and removal of pectoral muscles, recurrence has taken place after a year in the form of multiple skin nodules, mostly in skin that ought to have been removed by the original operation.

The temptation to close these wounds without grafting is responsible for many recurrences after otherwise well-performed radical operations.

Case 5.—A case of delay before operation, fortunately deprived of probably bad results by the nature of the growth, an adenocarcinoma. (Fig. 5.) This case came into my City Hospital serv-



Fig. 5.—Case 5. Adenocarcinoma of breast. Delayed operation.

The only remedy is a campaign of education of both the profession and the laity.

All tumors in the breasts of women over thirty should be considered and treated as cancer until proved benign.

Incomplete operations, except for palliation, are criminal.

Well-performed radical operations save, certainly, twenty-five per cent of the victims of this dread disease.

DISCUSSION

DR. C. B. WRIGHT (Minneapolis): A paper reviewing such an important condition as cancer of the breast is always interesting, and as able a paper as Dr. Stewart's, is of great value to us all. I regret that Dr. Stewart did not have time to show more of his microscopical pictures, as they are a very fine collection. A careful study of the gross and microscopical specimens is absolutely necessary to gain any intelligent conception of this condition.

There are two points emphasized by Dr. Stewart which cannot be emphasized too strongly: First, early diagnosis; second, wide excision of the skin and complete removal of the glands in every case where cure can be expected, as it has been repeatedly shown that carcinoma cells may be in glands that are not microscopically enlarged.

One might receive the impression from Dr. Stewart's paper that Halsted is still doing the operation he originally described. As a matter of fact they have been doing practically the same operation described by Dr. Stewart as the Weir operation for at least seven or eight years. I mean by that, cutting through the pectoral muscles and taking out the breast and glands separately, and also keeping the incision well up on the arm (so the resident surgeon, Dr. Sowers, told me a few days ago). There is one thing they do differently, however. They always excise the skin over the entire breast, and skin-graft. This explains their fewer skin recurrences. The pad in the axilla and the tight bandage over the arm are of very great importance in stopping oozing and restoring the axilla.



Fig. 6.—Case 5. Three weeks after operation. Showing free mobility of the arm.

One point that Dr. Stewart did not mention, is the question of removal of the supraclavicular glands. Dr. Bloodgood, who has recently gone over this entire subject, is in favor of removing them in every case. First, because they find a great proportion of their recurrences comes in these glands; and, second, because 7 per cent of the cases operated on were without recurrence at the end of three years, although the supraclavicular glands were definitely carcinomatous at the time of operation.

DR. J. E. MOORE (Minneapolis): I am in the position of the old gentleman, who, in talking to his son, said, "Honesty is the best policy, my son; I know it because I have tried both ways." In this

matter of operation for cancer of the breast I must say that until a very few years ago I was one of the pessimists; I could not see that much was accomplished in the way of operation. I took a journey down to Johns Hopkins and watched my friends down there performing their operation. I saw cases come back that had been operated upon years before and the history showed that they were worse cases than many that I had operated on, and the conclusion was evident that the fault was in the operation. I was convinced at that time that I had fallen short in my duty to these suffering women. I now agree with the position taken by Dr. Stewart, that no man who is not familiar with the technic of the operation in all its details should touch one of these patients.

It has been claimed in the past, and up to the present time, by the general practitioner, that the surgeon operates simply for the fee. I tell you, gentlemen, that is not true. The men who operate on these cases in spite of the fact that they have been allowed by the family practitioner to get to such a stage that it is too late to operate, try to save the woman's life, and they do save some of them, I know that, and I want to throw that back to those pessimists that the man who simply cuts off the breast and does not do a radical operation is simply operating for the fee. It cannot be said of Dennis, Meyer, and men of that class, who give us our best statistics, that they are dishonest men. If they operate on every one who comes to them they give them the benefit of the doubt, and save a large percentage over what was saved in our former work.

In reference to the first case but one thrown on the screen; that had a good operation in the axilla. I did it well, but I did not remove enough of the integument. This patient is now in Dr. Stewart's hands being treated by the x-ray for recurrence in the skin. There were glands in the axilla, there was no recurrence there, but the woman's life is in danger because of recurrence in the skin that was not removed. There is too much tendency among surgeons to do a clean-cut operation. We get into the habit of abdominal operation. We scarcely think of our patients. They go into the hands of the nurse, and danger of death is almost eliminated. We would like to close up the wound, and have it look fine when we quit. That is what I have been doing, and I promise you that in the future I shall not be afraid of taking more of the skin, because that is the only weak spot in the operation as I perform it now, and in future I shall remove more of the integument and make skin-grafts more frequently.

DR. F. A. DUNSMOOR (Minneapolis): At the close of the reading Dr. Stewart wanted me to say what I believed to be true about his paper or remarks. I want to say I believe his remarks are true. I think it would be safe to bet six to one that tumors in the breast of a patient over thirty years of age are malignant, so we need not worry about the diagnosis. Every tumor of the breast should be considered malignant until proven otherwise. In the next to the last case I operated on I believe it would have been utterly impossible to make a diagnosis of malignancy. It was a private patient, and something must be done for a little lump in the edge of the breast. I removed the small tumor under cocaine, and the microscope showed we had carcinoma and we then made the radical operation.

It is the early operation that gives us the chance of cures. Dr. Wright and the last two speakers

spoke about the percentages of cures. We must not lose sight of the fact that every case we cure must have died if no operation had been performed. In the studies I made last winter in the old country I found their percentages are a little worse than they are at Johns Hopkins, which reports that over half of the breast cases of cancer operated on are cured.

As to the question of the restriction of the movement of the arm after the radical operation: I do not agree with the doctor that the restriction in all of those cases is due to the fact that incisions were made in the axilla. Dr. Stewart claims there is no restriction of the movement of the arm when the radical operation is made as described by him. Removal of large portions of the pectoral muscles restricts movement of the arm. I have had perfect results when the operation has been made with an incision made in the adhesion following extensive enucleation of glands and all suspected fatty deposit about the vessels and nerves of the axilla. We may find sufficient cause for impaired movement of the arm running into the axilla. That is a less important matter than if the operation is made radical, or if sufficient tissue is removed so we are wide enough of the malignant disease so that we know we have made a cure.

There is a large number of cases where a portion of the cancer has been cut through, and the wound has been infected with cancer at that time. Then we get recurrence. If the operation is made wide enough and deep enough to take in all the affected tissue without incising or opening it there is no chance for infection. I had an operation a few days ago where I was fortunate enough to get the consent of the patient's daughter to use the skin of the opposite breast, and slide it on the space of the breast operated on, in order that we might have perfect skin covering without grafting.

I wish to speak here of a case I saw at Johns Hopkins the day after it was first operated on by Dr. Howard Kelly. When he found, under a microscopical examination, that it was carcinoma he put the woman asleep and removed her left breast. Each breast was enormous, and he removed the right one for the sake of symmetry.

The fact that there are fifty-five per cent of recoveries in this country should determine every one of us to say to ourselves: "We will operate at once on every tumor of the breast that has not been proven to be benign the moment it is discovered, provided we shall not do the woman more harm than good by an operation by reason of late discovery."

DR. J. CLARK STEWART (Essayist): I am very greatly flattered at the discussion this paper has elicited, and I want first to bring up the point Dr. Wright made in regard to the supraclavicular glands and the large number of cases at Johns Hopkins where these glands are removed. There seems to be much difference of opinion as to the routine removal of these glands, and the tendency now seems to be to remove them only when the glands just below the clavicle are clearly involved. Meyer says that all his cases where the supraclavicular glands proved cancerous, died of general metastasis; Warren advises removing them only when palpably enlarged.

It is doubtful whether the procedure practiced in some cases at Johns Hopkins, of removing the upper segment of the sternum to reach enlarged glands, is justifiable.

In regard to Dr. Dunsmoor's remark, I should like to call attention to the danger of dissemination where a tumor is removed for microscopic diagnosis unless the radical operation is at once completed.

COMBINED DRAINAGE IN RUPTURE OF THE URETHRA*

By HARRY P. RITCHIE, M. D.

ST. PAUL

Rupture of the urethra is of comparatively infrequent occurrence, and the surgical responsibility resting upon us is not very great owing to the severity of the injury. While possibly not of great general interest, it does occur, and a consideration of the best method of treatment may be of value.

(a) Internal

THE CAUSES

(b) External

Internal—

This is represented by rupture from overdistension of the canal resulting from stricture.

External—

(1) By direct force, such as occurs when the urethra is impinged upon the symphysis by a straddle fall.

(2) By indirect force when transmitted by some broken bones of the pelvis.

THE RESULTS OF RUPTURE

a. Hemorrhage.

(1) Evident by flow from the urethra.

(2) Concealed, even to such an extent as to cause death.

b. Extravasation of urine.

c. Sepsis: Local suppuration; pyemia.

d. Retention of urine and its possible results in bladder and kidney infection.

I have had under my immediate care three cases of rupture of the urethra, two of which were a complete solution of the continuity of the tube, while the third was incomplete, but involving the same questions of treatment as the former cases. I have not seen a rupture, at least with extravasation of urine, resulting from overdistension of the canal following stricture, unless some of our cases of so-called peri-urethral abscess were primarily the result of urinary pressure. The almost certainty that some part of the mucous membrane is left to direct the repair of the urethra, and the improbability of great

*Read before the Minnesota State Medical Association, June 19-21, 1906.

hemorrhage and other effects of traumatism, the treatment indicated is perineal section, with the belief that the drainage and dissection of the stricture will yield satisfactory results. If, however, it is found necessary to resect the urethra, then, I believe, combined drainage should be considered. So with injuries due to direct force, such as straddle falls, it is reasonable to expect that perineal drainage of the bladder and injured space would yield the same continuous, functioning canal as occurs after prostatectomy or cystotomy for any cause. In all three of my cases, the destroying force was transmitted through some broken bone of the pelvis.

Fracture of any or several bones of the pelvis is of no more serious consequence than follows this injury in any of the other bones of the body. The gravity of the results depends entirely upon the involvement of the soft parts. Two cases of fracture of the right ramus of the pubes have come to my care, and their progress towards complete recovery was at no time attended with the slightest uncertainty as to the eventual outcome. In order to fracture the pelvic bones, and then displace a fragment to a degree necessary to injury of the urethra, the force applied must be extreme. When such severe injury occurs, and attention is definitely drawn to the pelvis, the urgency of the condition must not lead us to overlook the examination of the whole body. It would surely be poor surgery to subject a patient to a major operation when other fatal injuries were present.

CASE 1

F. B., aged 36, was referred to me by Dr. J. H. Haynes, of Stillwater, in February, 1903. Twelve hours previously a log rolled over his back, and the history given proved him to have been greatly shocked. When I saw him on the evening of the same day at St. Joseph's Hospital he was resting quietly with pulse under 100. A catheter withdrew several ounces of bloody urine. I did not appreciate the gravity of the situation, and decided to postpone interference until the next morning. Examination twenty-four hours after the injury revealed a bulging ecchymotic perineum, unquestioned extravasation along the thigh, and an extreme rigidity of the abdominal muscles. I was still able to withdraw the urine with the catheter. A suprapubic incision opened up a large space extending upwards along the pelvis, the contents of which caused great pressure upon the perineum. The distended bladder, torn from its attachments, reached above the umbilicus. A perineal section was then made to find the penal end of the urethra. In this mass of blood and torn tissues the bladder end of the urethra could not be demonstrated. It was necessary to open the

bladder above, and find it by retrograde catheterization. From below it was then possible to place retaining sutures between the torn ends of the urethra. The suprapubic opening of the bladder showed its walls intact, and demonstrated satisfactorily that the extreme abdominal rigidity was not due to peritoneal irritation. As this was done only to find the proximal end of the urethra, this opening was closed and perineal drainage of the large space and catheter-drainage of the bladder, as deemed sufficient, were established.

At this time I could not remember to have read or heard any suggestions as to the proper procedures in these cases, and the individual working out of the problem at the moment consumed a great deal of time. Although this man made an eventual recovery it was fully three months before he was out of bed, and his convalescence was filled with great pain and discomfort. His condition demanded the closest attention. The bladder became infected, owing to the difficulty of irrigation, salts formed upon the catheter, and its removal was attended with excruciating pain. When an early attempt was made to dispense with its use, retention occurred, or if some of the urine passed from the bladder, it percolated over granulating surface, and flowed at unseemly moments into the bed to the great discomfort of the patient and the distress of his attendants. Its reinsertion was extremely difficult, and twice assumed the proportions of an operation with complete anesthesia.

Such an experience, theoretically at least, could be overcome by drainage of the bladder from above and the torn tissues from below. I found that this was suggested, and had been done by some writers, especially Riche of Paris and several Bohemians and Poles. There were many case-reports, but without any further discussion of the subject than the actual statement of facts. Many recoveries in which perineal drainage was employed tallied with my first case. Rutherford of England reports two cases under the heading of suprapubic and perineal drainage, and supports the combined drainage as a routine procedure.

When the second case came to my care I had fixed in mind the proper method of procedure.

CASE 2

S. L., aged 38, was crushed between a cylinder-head of an engine and a round-house door. I saw him within an hour after the injury. He was in profound shock and suffering great pain. The catheter withdrew only bright-red blood, and the abdominal rigidity was extreme. He was taken to the operating-room and a suprapubic incision was made. The same conditions were found as described in the first case, with the

addition of a displacement of the left tuber ischii. While the perineum was open, this bone could be pushed to the urethra, and is another feature in the mechanism of the injury. Suprapubic drainage were instituted and a catheter was inserted into the bladder *per urethram*. This man's recovery was ideal. The bladder was easily irrigated; the urethra along side of the catheter could be kept clean; the drainage of the space through the perineum was perfect; there was never any temperature; and he needed attention only twice daily. The catheter was not removed until the perineal wound was healed, and when it was removed he passed urine in the natural way within two weeks.

CASE 3

This man was squeezed between an engine and tender. The catheter immediately entered the bladder, and withdrew clean urine. He was put to bed. During the night his temperature arose, and his pulse ran from 60 to 110. The next day I withdrew the catheter, and blood followed. In attempting to use the cystoscope I was unable to re-enter the bladder with any instrument at hand. Opening above I found the same condition as in the other cases, but in no such extreme degree. I found three pockets, non-connecting but filled with blood. The signs of peritoneal irritation were so marked that I opened the abdominal cavity and inserted a probang, but found nothing. The urethra in this case was not completely severed, and some part of it was continuous, so that it guided the catheter into the bladder on the first attempt; but after its withdrawal, reinsertion led the instrument into a pocket of blood and urine. This case would, more probably than either of the others, have recovered with simple perineal drainage; however, his recovery was so prompt and uneventful that it has been a question in my mind whether it was necessary to subject him to such extreme measures.

DIAGNOSIS

These cases show the following points:

Urine may be voided from the bladder into the space resulting from the displacement upwards of the bladder, and when withdrawn *per catheter* may mislead the examining surgeon into the belief that the bladder has been entered. The mere fact that the urine is mixed with blood should first suggest rupture of the urethra or bladder, and is a positive indication for interference.

In incomplete rupture there is the possibility of a portion of the wall of the urethra guiding the instrument successfully into the bladder. Abdominal rigidity was immediate and extreme in all of these cases. The displacement of the bladder was surprisingly high beneath the wall, and

palpation of the bladder and blood-distended space may be mistaken for peritoneal irritation. This rigidity is no more marked in true peritonitis, and this fact is quite essential in support of primary suprapubic incision, in order that this important point may be promptly settled. Rupture of the bladder into the peritoneal cavity can yield no more severe symptoms. This is truly a condition demanding immediate repair. In rupture of the bladder an urethral injury may be overlooked and definite information of the condition of this canal must be obtained.

MECHANISM OF THE INJURY

Two cases showed definite fracture of the right ramus of the pubes, while in the most recent case the cause was uncertain. It seems impossible to rupture the urethra in the membranous part without a fracture of the pelvis. His present physician tells me that there is decided thickening about the symphysis, and I have no doubt but there was injury to the bone in this case as well. In all cases the pain was greatest in the hip, and iliac synchondrosis upon the opposite side of the fracture, suggesting that the probable cause is the buckling in of the long side of the fracture. In Case 2 the displacement of the left tuber ischii was a probable cause.

SURGICAL INDICATIONS

The surgical treatment must be selected with a view of the following steps:

- (a) Immediate effect.
 - (1) Control of hemorrhage.
 - (2) Institution of perfect drainage.
 - (a) In order to care for urine excreted.
 - (b) To drain all pockets of blood and extravasated urine.
- (b) Remote effects:
 - (1) To minimize pain and discomfort of convalescence.
 - (2) To repair the ruptured tube.

It is possible that the patient may die from concealed hemorrhage; in fact, loss of blood is the most constant element in the production of the extreme shock. The hemorrhage can be controlled only by the pressure of its own bulk. The bladder when torn from its attachments will rise higher and higher in the abdominal cavity, carrying with it the peritoneal covering from the sides of the pelvis. It demands a large opening in the perineum to be able to explore completely the field of injury and find the bleeding points. In Case 3 this may possibly have been done, but I believe that it is very difficult to diagnose the extent of injury from external examination. It is quite essential that all pockets be drained. If sepsis should occur, retention of contents of an infected pocket might spoil an otherwise good result.

If the catheter, inserted along the urethra, is depended upon to drain the bladder, such distressing experiences as occurred in the first case may be expected.

But what seems to me to be one of the most important arguments in support of suprapubic drainage is the comparative comfort and freedom from pain which it gives the unfortunate during the tedious period of convalescence. The danger of this added surgical procedure is not comparable to the cystitis which is sure to occur when drainage of this sac *per urethram* is employed. The technic of opening the bladder above is such that drainage here can be made practically perfect.

This withdraws the urine away from the injured canal, and the granulating perineal wounds, and thus minimizes the danger of a fistula at that point. The urethral catheter need not be withdrawn until this wound is closed. In no case was there more than the slightest evidence of a urethritis.

In repair of the tube of course it is futile to attempt to stitch the mucous membrane. Some writers say that the ends will fall together, and that it is unnecessary to insert any stitches. With the perineum open and the ends found, it must assist in the repair to place retaining sutures in the soft parts about the urethra. These have seemed to part upon tension, but soon the abdominal pressure will force the bladder down to the pubes. The lithotomy position also tends to separate the ends of the urethra. In the latter two cases I have used large doses of urotropine and benzoic acid together with very satisfactory results.

RESULTS

The first case I followed for two years after injury, and no stricture had then occurred.

The second case occurred last July, and now takes a No. 26 French.

The third case is still under observation.

The sexual function of the first two is wanting in the power of complete erection and ejaculation, although no evidence of interference with prostatic secretion.

The first eventually attained as good a result as the other two, but at such a tedious and painful convalescence that, overlooking the satisfaction in making a complete diagnosis of the injury, the comparative ease of care and prompt recovery of the latter two cases, are sufficient indication in this injury for combined drainage.

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DISCUSSION

DR. H. B. SWEETSER (Minneapolis): I have listened to the paper of Dr. Ritchie with a great deal of interest. The combining of the suprapubic and the perineal incisions makes an ideal method for the treatment of this class of injuries. Anyone who has opened a perineum to look for the proximal end of a completely torn urethra knows how very difficult it often is to find; in fact, not infrequently, such search may be very prolonged and still fail of success. By opening the bladder suprapubically and passing a sound through the internal meatus, the end of the proximal portion of the urethra is quickly found, and the duration of the operation very materially shortened.

As regards bringing the ends of the urethra together and steadying them with sutures; in this I would agree with him most heartily. To overcome the tendency to stricture it is wise to make longitudinal slits in the apposed ends; otherwise a second operation may become necessary, to remove such constriction. Diverting the urinary stream by an opening proximal to the line of union ought to be an advantage in gaining union by first intention. The catheter used to splint the torn ends should have a less diameter than that of the urethra, to insure comfort and also to avoid the development of uremic symptoms. This latter danger I had presented to me very forcibly by an experience with a patient following operation for prostatectomy. Everything went well until I passed a sound, which was large for the urethra. Immediately the patient suffered an uremic attack, not appreciating the cause of this, the mistake was repeated with a repetition of the uremia. Subsequently, small sounds were passed, which did not tear the granulations, and there was no further trouble.

We have only lately learned the fact that a considerable section of the urethra may be excised, and no attempt made to unite the cut ends, and yet a quasi-urethral mucous membrane will be reproduced, with little tendency to contract, by leaving in a small soft catheter for five or six days, and being careful subsequently not to disturb the fresh epithelial cells.

DR. H. P. RITCHIE (Essayist): A small catheter is quite important because the pressure of a large catheter will give an urethritis. That is one of the objections to using a catheter in the urethra, but one of the smaller size may be used without much danger. In my second case it was kept in two weeks, and by proper attention the urethra was kept properly clean.

THE DIET FOR THE TUBERCULOUS IN THE ST. PETER STATE HOSPITAL

By W. H. DARLING, M. D.

ST. PETER, MINNESOTA

During the year 1904 the women patients in this hospital were, as a routine procedure, put in bed, two at a time, for twenty-four hours; and the temperature, pulse, and respiration were taken every four hours, and the twenty-four-hour urine was collected and examined. Besides this, each was given a thorough physical examination. In this way a number of cases of incipient, and a large number of suspected cases of pulmonary, tuberculosis, were discovered.

From the incipient or early cases seventeen of the most pronounced were selected and placed upon special treatment in a ward by themselves. This ward opened upon a large veranda, which played an important part in the success of our treatment. The patients were kept upon this veranda most of the time when not on the lawn; even in the coldest days in the winter they were wrapped in blankets and left on the veranda for an hour at a time. They were also given special dietetic, hydrotherapeutic, and mechanotherapeutic treatment. Of these seventeen none have made further downward progress, and twelve have apparently recovered and have been returned to their respective wards. At the same time five cases of advanced phthisis, in whom there were the irregular and marked afternoon elevation of temperature, cough, and tubercle-laden sputum, accompanied by the physical signs of advanced lung involvement, were under similar treatment. While in these five cases the downward course was, at various times, arrested, several making gains in weight, all, sooner or later, succumbed. If our facilities for caring for this class of patients were better we could treat even the advanced cases with good results, but here, as in many other departments, we are hampered, and one's best efforts are made almost futile by the curse of over-crowding and the lack of properly constructed quarters.

Our experience has taught us that in the early and latent cases only can we expect to bring about a permanent arrest of the disease. In the advanced cases we can only delay the inevitable end.

During the two years that have elapsed since the establishment of our infirmary for tuberculous women patients, nearly all of those with whom we began have been returned to the respective wards from which they came, having gained in weight and with the physical signs of tuberculosis almost absent.

At the present time there are under treatment in this department thirty-six women, six of whom have expectorated sputum in which the tubercle bacillus was found. While believing thoroughly in the importance of fresh air and sunshine in the treatment of tuberculosis, and while practicing it to the extent of our limited facilities, we have strongly re-enforced it with the dietetic, believing that the selection of proper food, given in the right quantities and at frequent intervals, is of most vital import. We always endeavor to keep the digestive organs in the best possible condition, and do not at any time lay upon these organs a burden beyond their capacity. In many cases the digestion has not been in the least disturbed; in others, special treatment has been required, and the amount of food carefully regulated. In all cases specially prepared food has been given, a diet-kitchen being maintained for this purpose.

Just before arising, at 5:30 a. m., each of these patients is given a glass of hot milk. At 6:30 a. m. breakfast is served. This consists of cereals (well cooked), with cream and sugar, and boiled beefsteak or mutton, or raw scraped beef. Eggs are served frequently, and toast, fresh or stewed fruit, and chocolate or cocoa complete the meal. At 10 a. m. a light lunch, which may consist of raw beef, sandwiches, milk, broth or egg-nog. At 12 m. dinner, which is the heaviest meal of the day, consisting of soup or broth, beef, lamb or mutton roast; fowl, roasted, stewed, or boiled; fish, roast or boiled; potatoes, and all other fresh vegetables; salads; whole-wheat or graham bread; light puddings, with plenty of cream; fruit; and milk, chocolate, or cocoa. Again at four o'clock in the afternoon a lunch, similar to that of the forenoon, is given. Supper is served at 6 p. m., consisting of broth, soup, cold roast, soft poached or boiled eggs, toast, bread, stewed fruit, and milk, chocolate, or cocoa. At bedtime each is given a glass of egg-nog or milk.

After a few days' treatment the patients are always ready for these frequent meals the outdoor life and exercise, combined with the special attention to the excretory and digestive organs, serving as a great stimulant to the appetite. The food is always served as daintily and attractively as possible, each patient being served with a separate trav. with but a moderate amount of each kind of food upon each dish; but more is near at hand with which to fill the plate as soon

as emptied. We have always held ourselves in readiness to resort to mechanical feeding if necessary, but this we seldom have to do, each patient usually being quite eager for her portion.

As an experiment zomotherapy—this being the systematic, continued exhibition of raw meat and eggs in the treatment of disease—was given a thorough trial. While none of the patients lost in weight or became in any way worse upon this diet, neither did they gain, the only apparent change being that after a few weeks they invariably became violent, aggressive, and generally unruly.

We have found the mixed diet given above, in which raw beef and eggs play an important part, much more satisfactory, and it has given excellent results.

We will briefly consider four fairly typical cases treated in this manner.

CASE I

C. L. Admitted to the hospital September 1905; a case of primary degeneration.

Family history.—Negative.

Personal history.—The patient had enjoyed fairly good health up to a short time before admission, when, at the beginning of the mental disturbance, she became anemic, emaciated, and generally depressed physically. At the time of admission she weighed but eighty-three and one-half pounds, though 5 ft. 5 in. tall, and large-boned. Physical examination showed a dilated heart, resonance impaired, and respiratory murmurs diminished over the anterior surface of the upper lobes of both lungs, with crepitant and subcrepitant râles in the right supraclavicular region. Temperature showed a regular afternoon elevation of from 1.5 to 2 degrees. The urine showed signs of parenchymatous involvement of the kidneys. Two months after admission the weight had diminished to 75 pounds, the condition of the lungs had grown progressively worse, and there was a dry cough, but no expectoration.

She was removed to the infirmary for tuberculous patients, and put upon the treatment already outlined. In six weeks she gained thirty-two pounds, and was running a normal temperature. About this time, during each menstrual period, she began to complain of pain in the right iliac region, these attacks being accompanied by elevation in temperature, nausea, and constipation. With each succeeding month the attacks became more and more severe, and lasted for a longer period.

In July, 1906, she was operated upon, and a vermiform appendix showing considerable inflammation of the mucous membrane and deep ulceration, along with fibrous increase, was removed. She recovered promptly from this opera-

tion, and has since been in excellent health.

Examination of the chest on December 1st, showed the following conditions: Over the apex of the right lung and in the right axillary region there was impaired resonance, but very slight impairment of resonance over the apex of the left. In the right subclavicular region there were harsh sounds and cog-wheel respiration, and prolonged respiration over the left apex. No other abnormal sounds could be found.

CASE 2

L. B. Admitted March, 1900, aged 38, married; weight 113 pounds; height 5 ft. 2 in.

Family history.—She stated that her father, one aunt, and one brother had died of consumption. The patient had never been robust, and at the time of admission was anemic and sickly in appearance. The area of cardiac dullness was increased, the pulse, weak and irregular; the chest was flat; circumference 79 cm.; expansion 2 cm. Respiratory sounds were roughened, and resonance was impaired over both upper lobes anteriorly. Digestion was poor, and there was parenchymatous involvement of the kidneys. The temperature was usually one or two degrees higher in the afternoon than in the morning.

During the following year, though not at any time in robust health, there was no marked change in her condition, the temperature continuing to show a slight afternoon elevation. At the end of this year her weight was 108 pounds, she continued to lose until, in January, 1902, her weight was 93 pounds. She began to cough and expectorate a large amount of sputum, which contained epithelial detritus, streptococci, staphylococci, and bacillus subtilis. No tubercle bacilli were present. The lungs showed increasing involvement of both upper lobes, and moist râles were numerous. She was much disturbed mentally, and all treatment therefore was difficult. She was given medicinal treatment, but was not removed from her ward, or the regular order of her life varied.

There was no marked change in her condition up to August, 1904, when the following conditions were found present: She was emaciated (weight 84 lbs.) and cyanotic, hands cold and clammy, chest flat anteriorly, and infraclavicular spaces depressed. Resonance was impaired over the apices of the lungs, most markedly over the left; coarse moist râles were numerous over the anterior surface of the left upper lobe; and there were harsh sounds and prolonged expiration over the anterior surface of the right upper lobe. In the left axillary region there were impaired resonance and a to-and-fro friction sound. Posteriorly, resonance was generally impaired, but in a marked degree over the left lung, over

the upper portion of which there were numerous moist râles. Cough was frequent, and sputum profuse, but no tubercle bacilli could be found. Temperature was 97 and 98 degrees in the morning, and 100 to 101 degrees in the afternoon.

She was transferred to the infirmary for the tuberculous, and put upon special treatment. A slight but steady improvement began, which has to the present time been uninterrupted. She now, after two years, has the appearance of a woman in good general health, appetite is good, sleeps well, temperature shows a slight variation, and weight is 121 pounds, being but four pounds less than normal for a woman of her height. Examination of the lungs on December 1st showed impairment of resonance over the left upper lobe anteriorly and posteriorly, with harsh inspiratory and prolonged expiratory sounds. Over the right apex the respiratory sounds were indistinct. In the left axillary region and over the posterior surface of the lungs there was diminution of respiratory sounds. No moist râles could be heard.

CASE 3

A. K. Admitted 1893, age unknown. Tuberculous family history. Patient enjoyed good health up to the onset of her mental trouble, a short time before her admission. Though vitality and nutrition were impaired there were no indications of thoracic disease. This was a case of melancholia, and at times her mental and physical depression was great, although she was not at any time acutely ill.

In December, 1903, examination of the chest showed the following conditions: The supraclavicular and infraclavicular regions were depressed. There was relative dullness over the anterior surfaces of both upper lobes and cog-wheel respiration in the left infraclavicular region. She neither coughed nor expectorated, and there were no temperature changes. Weight was 131 pounds. There was nothing unusual in her condition up to June, 1906, when a slow, though progressive, loss in weight began. The temperature became slightly elevated in the afternoon, and there was a dry cough.

August 1, 1906, she weighed but 100 pounds. There was dullness upon percussion over the apex of both lungs, and in the axillæ, cog-wheel respiration with prolonged expiration could be heard over the right upper lobe anteriorly, with a few crepitant râles and roughened sounds over the left upper lobe. The temperature rose two or three degrees every afternoon. She was kept in bed in the infirmary, given cold shower-baths, massage, and special diet. An almost immediate gain was apparent. After a few weeks she was allowed to be up and about all day, being kept in the open air as much as possible. Her appetite

became good, and her gain in weight was as follows: First week, one pound; 2d week, one-half pound; 3d week, seven pounds; 4th week, seven pounds; 5th week, lost 2 pounds; 6th week, lost three pounds. Here her medicinal and dietetic treatment was slightly changed, with the following results: Seventh week, gained six pounds; 8th week, gained three-fourths of a pound; 9th week, two and one-half pounds; 10th week, two and one-half pounds; 11th and 12th weeks, lost slightly; 13th week, gained five pounds; 14th week, gained one pound; 15th week, gained three pounds; 16th week, gained one pound; and has now reached her normal weight. Recent physical examination shows slight impairment of resonance over the apex of both lungs, with harsh sounds along the inner border of the apices.

CASE 4

C. A. Admitted November, 1905; weight 102 pounds; height 5 ft. 1½ in.; aged fifty years. Family history showing tendency to insanity, but not toward tuberculosis. The personal history gave nothing bearing upon our subject, except that she had coughed considerably for four years.

At the time of the entrance examination she was maniacal, and a careful examination was impossible on account of her continual raving, but it was learned that expansion was poor, and resonance impaired over the upper lobe of both lungs and at the bases posteriorly. Moist râles were scattered throughout both lungs.

She made a slight physical gain as the acute excitement subsided, and nothing occurred to call attention to the condition of the lungs until August, 1906, when her temperature became irregular, and cough frequent. She began to expectorate sputum which contained numerous tubercle bacilli. Weight about 90 pounds at this time. Over the upper lobes of both lungs there was dullness; and moist râles, coarse and fine, were numerous. Over the posterior surface of the left lung there were relative dullness and diminution in the respiratory murmur. She was put upon this special treatment, and at the end of two months had ceased to cough or expectorate. Her temperature seldom was above 99 degrees in the afternoon, and she was steadily gaining in weight. Physical examination December 1st showed impaired resonance over the apices of the lungs, and also in the intrascapular and left subscapular regions. Respiratory sounds were diminished in these regions, but there were no râles, moist or dry, to be heard.

NOTE.—I wish to acknowledge the assistance given me by Dr. H. A. Tomlinson and Dr. M. P. Hopkins.

ORCHITIS COMPLICATING MUMPS*

By THOS. LOWE, M. D.

PIPESTONE, MINNESOTA

In presenting this subject for your consideration, what I shall have to say will be based largely upon my own personal experience and observation in an epidemic of mumps which has recently appeared in Pipestone and vicinity. The number of victims, of course, it is impossible even to estimate, as most cases, especially those in children, were not particularly severe, and the services of a physician were not required. The epidemic lasted fully three months, and it has seemed as though almost every family in this vicinity that had not had the disease previously, was visited.

The complications observed in this epidemic were not different from those usually observed in other epidemics nor more severe or frequent except as to orchitis. This complication was much more frequent and severe than I have ever witnessed before in any of the many epidemics which I have passed through. I am led to believe that this complication is worthy of more extended consideration than authors are in the habit of giving it. In most of our standard works on practice we find this disease only barely mentioned in connection with mumps and little further said about it.

As a complication of mumps it appears to me that orchitis differs sufficiently from the disease, when due to other causes, to require a special description. Its severe acute symptoms, both constitutional and local, in connection with its possible results, entitle it to more consideration than it has previously received from the profession.

The number of persons whom I have treated for orchitis as a complication of mumps in this recent epidemic was ten.

These cases have all occurred in adults, whose ages have ranged from 17 to 40 years; in fact, in all my experience of 20 years, I have never seen a case of this complication occur in a boy younger than 15 years of age. I note also that most authors agree that it is very rare, indeed, before puberty, although I believe a few cases are recorded before that period. The fact that practically all of these cases occur after puberty might give us a key for the further investigation of the matter of etiology, the period following pubescence being the time at which there is the greatest susceptibility, this susceptibility gradually lessening as age advances and sexual vigor diminishes.

For some reason unknown to the writer the right testicle is much more frequently effected

than the left. We find, however, that the left is at times the only one involved, and sometimes, although rather infrequently, both are involved. The proportion in my cases was about three to one. There were also two of the ten cases in which both testicles were involved. In these latter-mentioned cases the second testicle was not attacked for three or four days after the first one. In all my cases the gland itself was involved first, and not the epididymis. I believe that it is generally agreed that this is the order in which this inflammation shows itself, although the epididymis may be involved later.

I note that in the literature on this subject a few cases are recorded in which orchitis is the first and only evidence of mumps. I have had no such personal experience and should think that such cases must be extremely rare. I had, however, one case, which will be mentioned later, in which the right testis and both parotids were simultaneously involved.

Etiology.—As to the etiology of orchitis in this connection it may be said that it is not yet fully understood. Kocher offers perhaps the only explanation which has received any amount of consideration, and I may here also say that his explanation is by no means generally accepted. It is as follows (quoting from White and Martin): "He states that orchitis after mumps is urethral, the specific inflammation excited by the organism first involving the urethral mucous membrane and then extending along the vas." In my personal experience I have seen no symptoms present in the urethra that would in any way tend to confirm this opinion. The theory of metastasis is frequently mentioned, but this theory amounts to simply a statement without an attempt at any further explanation. This part of our subject requires further investigation and study.

Symptoms.—Orchitis when a complication of mumps usually begins from the fourth to the sixth day after the first onset of the disease and usually when the swelling in the parotid has begun to subside or has practically disappeared. It is unusual to see the testes and parotid glands simultaneously involved. I have seen but one case of this kind, and this was a very severe one, the temperature running as high as 104.5° and the pulse 120 and over. There was also delirium present in this case for about two days, together with nausea and vomiting and the usual pains in the back, head, etc. This case made a complete and satisfactory recovery in about two weeks. About the first symptoms noticed in this complication is a tenderness in the testicle—in the body of the gland and not in the epididymis.

*Read before the Southwestern Minnesota Medical Society, July 13, 1906.

The pain and swelling continue for four to six days in ordinary cases, and then gradually begins to subside. The testicle becomes very hard and tense, and frequently enlarges to about two or three times its normal size. I have seen statements to the effect that they sometimes enlarge to the size of the clenched fist, but I have never seen any so large as that. After about four or five days the testicle begins to soften, and the inflammatory condition begins to subside and gradually becomes smaller.

Pain.—There is a great deal of pain with this affection. As the gland swells and becomes tense the pain becomes greater. It is of a throbbing character in the testis, and also shooting pains are felt to run up the inguinal region along the cord, and frequently across the lower abdomen. There is also usually much pain across the lower part of the back, and occasionally wandering pain in different parts of the body. The head seldom escapes, and headache is so severe in many cases as to prevent sleep.

Temperature and Pulse.—This complication usually begins with a slight chilly sensation, not a distinct chill, soon to be followed by a rise of temperature. The temperature does not rise at once, but gradually begins to ascend at the beginning of the involvement of the testis, and reaches its height in about twenty-four to thirty-six hours. In some cases the temperature is quite high, ranging from 102° to 105°, with pulse to correspond, being from 90 to 120. After the testicle begins to soften, the pain becomes less and the temperature and pulse gradually subside.

Gastro-intestinal.—In nearly all severe cases there is nausea and vomiting. This often continues during the height of the inflammatory stage, and subsides with the other symptoms. I have seen two or three cases in which a sharp diarrhea set in with the gastric symptoms, but did not last over thirty-six hours, and did not require special treatment. Constipation is the rule, and diarrhea the exception.

Prophylaxis.—During epidemics of mumps we are often consulted as to the proper care to exercise after parotitis has appeared to prevent this most undesirable complication. It is frequently attributed to cold, undue activity, etc. I believe that those cases which can be directly traced to catching cold are comparatively rare. I do believe, however, that undue activity after the parotid glands have begun to swell is the most frequent cause, and I will go further and say that I believe it will more than overbalance all other causes combined.

This being the case, of course, the remedy immediately suggests itself. To all boys and men, fourteen years of age or over, my advice is to

keep quiet for several days. This advice applies to mild, as well as severe, cases—as my experience goes to show that mild cases are about as liable to complications as severe ones. I do not know of any medication that will have any prophylactic influence, and I have never tried any.

Prognosis.—The prognosis of orchitis as a complication of mumps is good so far as danger from a fatal termination is concerned. I have never known personally of a death which could be attributed directly to that cause, but so far as the results to the testicles themselves are concerned, it is not considered so favorable by some authors. These remarks apply especially to atrophy and resulting sterility. Sufficient time has not yet elapsed for me to give any data on this last epidemic on this point which would be of any practical value. I shall, however, watch these cases with interest for information as to the ultimate results. I find, however, by reference to the literature on this subject that the results are less favorable than, I believe, is generally supposed.

In an article by Jules Comby, in the "Twentieth Century Practice," there are given 511 cases of orchitis complicating mumps, of which 237 subsequently had atrophy of one or both testicles. He remarks: "The results of testicular atrophy, especially when double, may be quite grave, for there may be loss of virility, sterility, and an effeminacy of the constitution, as shown by the eunuch voice, enlargement of the breasts, etc. These extreme results of atrophy of the testicle are exceptional, but impotence and sterility are not rare. The possibility of the accident darkens considerably the prognosis of mumps in the adult." White and Martin think that atrophy is a much commoner sequel than is generally conceded. I have never seen suppurative of the testicle as a result of this complication, and I am inclined to believe that it would be very rare.

Treatment.—As to the treatment of this complication, it does not differ materially from that of orchitis or epididymitis resulting from other causes, except as to the combating the more severe constitutional symptoms. The first thing to do when the symptoms of orchitis appear is to have your patient go to bed at once. My experience has taught me that this is the safest and best thing to do in every case, whether the fever is high or not. If constitutional symptoms are not present at first the chances are they soon will be. After getting your patient to bed, have the testicle elevated as much as possible by placing some soft material between the thighs for it to rest upon. After this is done a piece of flannel or lint should be saturated with some medicament and applied directly to the inflamed

gland. I have tried quite a variety of applications, including lead-water, belladonna, linament, etc., but I have now come to use hamamelis, distilled extract, two parts and colendula, tincture, one part; and I believe this has given me the most satisfactory results. I find, however, that a direct application of heat in a hot-water bottle or by some other means is a very valuable adjunct to this treatment. The heat not only appears to make the effect of the application more pronounced, but I believe it has a tendency also to relieve the extreme tension which is the cause of so much pain. I advise that the application be kept constantly applied and that the heat be also frequently renewed. It is advisable to continue this treatment until the inflammatory process subsides, the pain becomes abated, and the tension relieved, after which this part of the treatment can be relaxed and gradually withdrawn. Some authors recommend puncture of the tunica albuginea, for the relief of the severe pain and tension and also for the purpose of preserving the function of the gland. As to the efficacy of this measure I cannot speak from experience, as I have never tried it. A very important measure in the care of these cases is the application of a carefully fitted suspensory bandage. Of course this bandage need not be used while the patient is confined to the bed, but should be applied as soon as he gets up, and should be worn constantly for several weeks. It is thought by many that the support afforded in this way has a tendency to prevent testicular atrophy and also to aid materially in restoring it more speedily to its normal condition.

Medication.—As to the internal treatment given in these cases, I may say that I have, to a considerable extent, disregarded the local condition present and given such internal medication as seemed to me to be best suited to the general condition of each individual patient at the time each prescription was made. The remedies which have been of most service in these cases have been as follows: Aconite has been especially valuable in the beginning of the complication where fever was high preceded by a chill, pulse rapid and of high tension, and great constitutional disturbance with pain and restlessness; veratrum viride has also been given in the commencement of some of the cases with satisfactory results; belladonna perhaps has been used in more cases than any other one remedy—it is indicated where there is moderate fever, severe headache, and throbbing pain in testicle. Pulsatilla is recommended by all schools of medicine as a sort of routine remedy for orchitis due to mumps. I tried it in a number of cases and must say that the results have not met my expectations.

I have been in the habit of giving biniodide

of mercury in somewhat of an empirical way after the febrile condition had subsided and continuing it for two or three weeks. I have thought it had some influence at least on the reduction of the size of the testis and also in assisting it to return to its normal size and condition.

Of course certain conditions have arisen from time to time, such as nausea, vomiting, etc., which have required special treatment for a short time. I have also used bathing to reduce temperature and allay nervous erethism. I have not used morphine in any case, as I feared it might tend to increase the gastric irritability, which was a prominent symptom in so many cases.

SURGICAL TREATMENT OF GOITER, BASED UPON 300 PERSONAL OBSERVATIONS*

BY C. H. MAYO, A. M., M. D.,

ROCHESTER, MINNESOTA

Of the 300 operations there were 110 for hyperthyroidism, or exophthalmic goiter, with nine deaths, four of which occurred in the first 16 and but two in the last 64 cases.

Of malignant diseases, 2 sarcomas and 6 carcinomas were operated upon with 1 operative death in the latter.

There was but one fatality in all the other cases and this occurred on the eighth day, from pneumonia.

PREPARATION

In preparing patients for goiter operation, they should be free from lung complication, and the cases of hyperthyroidism should have a pulse even in tension and rhythm; rapidity, from 120 to 150, is not so important, if the other qualities are good.

ANESTHESIA

Ether is given by the open-drop method, following the administration, hypodermatically, of 1-120 to 1-100 gr. of atropine and 1-6 gr. of morphine. Local anesthesia is seldom employed.

The operation is by transverse collar incision. If the thyroid and hyoid group of muscles are severed it is near the upper attachment to save nerve supply. Cysts and encapsulated tumors are enucleated. Other varieties are extirpated, great care being exercised in the latter type of operation to preserve the posterior capsule of the gland, as this preserves the parathyroids, preventing tetany. For fear of myxedema some active gland tissue is left. The posterior capsule also protects the recurrent laryngeal nerve.

*Author's abstract of a paper upon this subject.

PHYSIOLOGIC CHEMISTRY

CONDUCTED BY

RICHARD OLDING BEARD, M. D.

Professor of Physiology, University of Minnesota

ASSISTED BY

J. P. SEDGWICK, B. S., M. D.

Instructor in Physiologic Chemistry, University of Minnesota

ACIDOSIS

Hallervorden found, years ago, that in the increased production of fatty acids in diabetes, large amounts of NH_3 were taken up by the acids and excreted in the urine, thus increasing the ammonia coefficient, or the percentage of ammonia in the urine when compared with the total nitrogen excreted.

This fact, recognized in adults, has recently been found to be of both theoretical and practical import in children. Kellar determined that fifty per cent of the nitrogen excreted by infants suffering with gastro-intestinal disturbance appeared as ammonia. In direct analogy with the former teaching respecting diabetes, Kellar ascribed this increased ammonia excretion to the taking up of the ammonia by the circulatory acids. Czerny and Kellar were able to show that these fatty acids depended upon the quantity of fat ingested, as well as upon the fact of intestinal disturbance. Steinitz added the observation that when an excess of fatty acids, from fat ingested, is present in the intestine, the fixed alkalis are used to neutralize these intestinal acids, and these, therefore, not being available for the neutralization of the circulatory acids, ammonia must take their place.

According to the latter view, the acidosis of infants, with intestinal trouble, would be considered enterogenic and relative. The excretion of acetone, diacetic acid, and oxybutyric acid, must be considered, according to Naunyn, as an expression of over-production of organic acids in the body.

Meyer found the excretion of the acetone bodies to be especially frequent and high in children with acute infectious diseases; in scarlet fever and diphtheria seventy per cent, and in measles, sixty per cent, of the children showing this condition.

It has long been known that acetonuria may be brought on by cutting the carbohydrates out of the diet. Langstein and Meyer found that it was possible to produce a marked acetonuria, as well as a marked excretion of acetone bodies, through the expired air, by feeding children

upon a carbohydrate-free diet. The excretion by the lungs, in these cases, was so marked that a clinician who came into the room in which the subjects of the experiment lay, inquired at once for the diabetic patients. The children soon showed sleepiness, malaise, and other symptoms which necessitated the breaking off of the experiments.

The authors suggested that the ease with which children develop acetonuria affords a possible explanation of the severity of diabetes in childhood. In these cases, the rapid excretion and the lack of normal metabolic action on the sugars has effect on the formation of fatty acids from the fat, precisely as a total deprivation of carbohydrates has. In other words, without undertaking at present to say why, the carbohydrates appear necessary to the metabolism of fats.

With these facts for a foundation, backed by the clinical observation that after an enterocatarrh, followed by a hunger period, children do better on a fat-free diet than a fat diet of either cow's or human milk, Salge drew some very important conclusions. He found a bacillus in the stools of enterocatarrh which was very active in splitting the fats and freeing the fatty acids. He considers that there is an acid intoxication, resulting in enterocatarrh, with injury to the pancreatic function and irritation of the epithelium. Moreover, he found evidence of a bacterial action upon the carbohydrates in the bowel, with their consequently imperfect use, resulting in a carbohydrate hunger, and, therefore, as shown by Langstein and Meyer's experiments, an acidosis; in fact, the high excretion of the acids was shown, in Salge's cases, by an increase, in enterocatarrhal infants, of the ammonia coefficient above the normal point of from six to nine per cent, to as high as from twenty-three to forty-nine per cent.

There may be some connection between this acetonuria and the cases of intoxication, reported by Holt at the Detroit meeting of the Pediatric Society, following high fat-feeding.

Salge was able to show, in a most startling

manner, the correctness of his deductions by a clinical experiment. In a series of cases of enterocatarrh, in which the mortality has always been high, he fed centrifuged fat-free breast milk, and not one case died. These findings have been followed by eminent pediatricians, with almost revolutionary results in this class of cases.

In insisting upon fat-disintegration as a source of acetone bodies, proteid disintegration, as a still possible source, is not forgotten, nor, while it is doubted by many, is its agency yet wholly denied.

SEDGWICK.

THE FREQUENCY OF INFANT-FEEDING

Czerny and Kellar, in their recent work upon "Infant-Feeding," not yet translated into English, as it should be, summarize their very extensive observations in the conduct of the Breslau clinic. Among many conclusions of interest, the following is of so general value as to justify a free translation.

"The question how often should a babe be nursed is of the greatest importance in the feeding of a healthy child. In pediatric, especially in the matter of infant-feeding, arbitrarily adopted ideas become general, while, at the same time, scientific opinions, founded upon observation and investigation, can scarcely be brought to public attention.

"The dictum that infants must be fed every two hours, which has been so generally advanced through popular scientific writings, and has been held as hardly any other dictum has been, wholly lacks foundation; that is, it lacks foundation if we do not wish to take the stand that it is right because this or that authority has said it. Whoever is not burdened with this belief in authority, will seek in vain through literature for grounds for this view, which not only is not ideal, but has certainly done positive harm to innumerable infants.

"We consider the number of five feedings, in twenty-four hours, wholly sufficient for the healthy child in the first year and practicable in every case. Although we have carried out such a regime with all infants for many years, we have never found it necessary to deviate therefrom. Numerous observations of breast-fed children, who spontaneously demand but four feedings in twenty-four hours, and therewith increase in weight and development in a perfectly normal manner, show that our number of five feedings in twenty-four hours is not too small. Observation of healthy children shows that on the average this four-hour interval must be considered normal for the healthy child at the breast.

"Since the examination of the stomach-contents of infants has been extensively practiced, we have learned that the stomach of the healthy child, fed at the breast, becomes empty in from

one and a half to two hours. The healthy child, therefore, sleeps for hours upon an empty stomach. This time, during which the stomach remains empty, is, as we shall show later, necessary in order to maintain the motor and secretory functions of a child's stomach at their normal height."

The early advocates of essential or fundamental truths do not always live long enough to experience the proof of that principle of attraction which resides in the nature of truth itself, or to see men of scientific consequence come to their recognition.

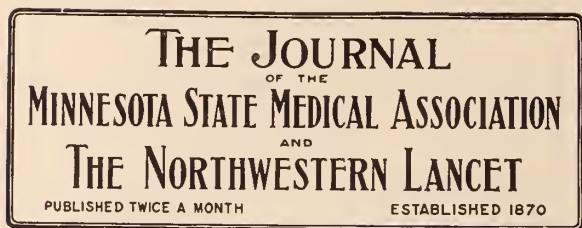
Twenty years ago, or more, a very few men in America undertook, and have systematically maintained, a discouraging conflict with the custom of frequent infant-feeding, a custom as irrational, as inexplicable in its origin, and as entrenched in popular and professional regard, as the Chinese practice of permanent baby-shoes. The reversal of that custom has involved the removal of a very mountain of popular prejudice. Unsupported by any functional consideration whatsoever, productive of untold gastro-intestinal disease, responsible for a larger share of the mortality of infancy than any other causative factor, nevertheless, the practice of frequent infant-feeding is still lamentably common.

Medical opinion upon this question has, fortunately, undergone some revision, and, in the past ten years, the statistics of infant health have materially improved. Indeed, there are those among us whose experience has tallied with that of Czerny and Kellar, who, by a careful adjustment of food quantities to infantile capacity, a careful selection of food-stuffs in relation to infantile digestive power, and an intelligent respect for the time element in infant digestion, and to the physiologic demand for suitable intervals of digestive rest, have minimized the occurrence of gastro-intestinal disease in infancy and have practically reduced the mortality from this cause to nil.

BEARD.

THE SCOPE AND VALUE OF THE SANATORIUM IN THE ANTITUBERCULOSIS MOVEMENT

Herbert Maxon King sums up his paper as follows: The sanatorium offers the tuberculous invalid the most practical, indeed the only systematic, method of fighting his disease and acquiring hygienic education in its prevention; it is a most valuable educational factor, not only in the immediate community in which it is located, but to a very great extent in the community at large, and it has a definite and important place, which can scarcely otherwise be filled in the study and investigation of the disease and its complications.—Medical Record.



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JANUARY 1, 1907

WANTED

THE JOURNAL-LANCET will be pleased to receive abstracts of papers read before societies which their authors do not care to publish in full, and also of papers by Northwestern men which are published in the journals devoted to specialties. As far as possible abstracts of the latter kind should be published by us simultaneously, at least as near as may be, with their publication elsewhere.

As a sample of what we desire, we refer to the abstract of Dr. Mayo's paper published in this issue on another page.

SMALLPOX

A return of a mild epidemic of smallpox in Minnesota emphasizes the necessity of educating the public anew as to the safety of vaccination. Eventually, quarantine measures will be abandoned, and compulsory vaccination will be the safeguard. The opponents of vaccination will be the sufferers, and those who are successfully vaccinated will feel that every precaution has been used to prevent or modify an attack.

It seems almost unnecessary to reiterate the experiences in foreign countries where smallpox has been stamped out by vaccination, but the public are slow to appreciate simple measures for the protection of the public health. The committee report in the Bulletin de l'Académie de Médecine, Paris, abstracted by the Journal of the A. M. A., recommended a resolution which was adopted by the Académie. Strolling players, peddlers, gypsies, sailors, and others constantly changing their residences, must be vaccinated and revaccinated with special care, as these nomads are responsible, in many instances, for the spread of smallpox. The resolution also recommends that a positive or negative result of a vaccination must be inscribed on a certificate. All school children between 6 and 10 must be vaccinated, if the result of their previous vaccination was negative, and again at 14. The vaccinations required by law (in Paris) at 11 and 21 must be repeated three times in case of a negative result.

These suggestions should apply in this country. It would entail no hardship on anyone and, with the purity of virus nowadays, there is really no danger. If the unvaccinated protest, and their protest is sustained by the courts, they will obtain satisfactory information by bitter experience. Of course, the people of the state are not all coming down with smallpox,—a large number are and will be immune,—but the uneducated and the anti-vaccinationist will some day meekly ask for protection. For the present, quarantine methods will prevail, but there is a growing tendency for its abolishment. The resolution of the Minnesota State Board of Health, which will go into force in January, 1908, has been commented on favorably by other state authorities, and shows that the discontinuance of quarantine enforcement may be generally accepted.

DR. CYRUS K. BARTLETT

Dr. Cyrus K. Bartlett died at his home in Minneapolis on December 26, 1906. He was born in Massachusetts on June 23, 1829, and in 1852 he graduated from Harvard Medical School. For ten years he was assistant superintendent in the Hospital for the Insane at Northampton, Mass., and in December, 1868, came to Minnesota to become superintendent of the St. Peter State Hospital for the Insane. He resigned his position in 1893, after a service of twenty-five years, and has resided in Minneapolis ever since.

Dr. Bartlett was professor of psychiatry in

the Medical Department of Hamline University, and enjoyed a satisfactory consultation practice. During the superintendency of Dr. Bartlett the editor of THE JOURNAL-LANCET was an assistant in the St. Peter Hospital for the Insane, and lived in Dr. Bartlett's family, and so he can testify to the many kindly favors which came to him through the courtesy of this loyal man.

Dr. Bartlett was widely known throughout the state for his ability, gentleness, and his unswerving friendship. He was methodical and systematic in the administration of his hospital duties, and he inspired his co-workers with his earnestness and tranquility. He had the old-time intuitive sense of things, and was a sound advisor and a capable executive.

TONSILLECTOMY

A paper by Dr. Wm. N. Porteous, entitled "An Alleged Neoplasm" and printed in our last issue (Dec. 15th), deserves comment. Total extirpation of the tonsils is a favorite operation with surgeons, specialists, and even general practitioners, on the ground that the glands are useless, and that they are the common pathway for disease germs. Granting the latter theory to be true, does the extirpation of the gland remove or relieve the individual from an avenue of infection, and does it not leave the patient in a crippled state, owing to the formation of cicatricial tissue, in some instances, between the muscles which bound the tonsil?

The cases reported by the author suggest that harm may come from complete removal of the glands.

In the earlier days of tonsillar surgery, the instrument employed in the operation did not remove the entire gland: it simply shaved off the redundant and diseased portion. In the surgical procedure of today the operator is more skillful in his dissection, and the whole gland is sacrificed. It would seem more rational to remove only such portions of the gland as were evidently diseased, or to clean out the crypts, and put the gland tissue in a more healthful condition by a method of treatment that would follow the lines of surgical therapeutics, as applied to accessible areas of disease. Some years ago

the laryngologist used the platinum point at white heat, searing the gland, destroying the areas of infection, and allowing the gland to atrophy, thus leaving a block between the muscles and maintaining the function of each muscle. If this method of treatment is rational, no risk is assumed by the operator, and the patient is not exposed to vocal or auditory misfortunes.

PREVENTIVE MEDICINE

Although the medical profession has lost much prestige by its own candid showing that medicine and surgery are not exact sciences, and that we are groping in the dark for scientific data concerning the causes and the cure of many diseases, it may still be confidently asserted that, if during the past decade the profession could show nothing to its credit except its work in preventive medicine, it would still be the greatest benefactor the human race has ever known.

And it should not be overlooked or forgotten that the profession has been diligent, in a very marked degree, in making its discoveries of value to the public. Medical and surgical men of all ranks are preaching preventive measures to the public. Dr. William H. Welch, of Johns Hopkins, had an able review of the recent progress of medical science in the October issue of the Educational Review, and the city and country papers of Minnesota show that an active campaign of education is being carried on by medical men and medical societies in this state; and the State Board of Health is turning all its energies in this direction.

In view of the significant facts it is pitiable to hear the pessimistic cry of some members of the profession who see no good in either medicine and surgery or in the medical profession.

Dr. Welch's review is exceedingly interesting, as he goes quite at length into the details of the progress of medical science. He not only shows that the death-rate has declined one-half and the expectation of life has increased ten or twelve years within the last century, but he points out specifically what the profession has done within very recent years. And what a triumph it is! The germ doctrine of infectious diseases, the discovery of parasitic organisms of many of these diseases, the determination by experiment of the mode of spread of certain others, and the experimental studies of infection and immunity; and the supreme fact that these diseases are preventable, mark a progress that the mind can scarcely comprehend.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

The regular meeting of the Academy was held at the West Hotel, in Minneapolis, Wednesday evening, December 5th. Dinner was served at 7:25. The Academy was called to order at 8:30 o'clock by the president, Dr. R. O. Beard. There were 28 members present.

Dr. Nippert, of Minneapolis, presented clinically a case of Hodgkin's disease in a young woman. She had had a small goitre from her 16th to her 19th years, but it had disappeared entirely. Seven weeks ago a lump appeared in the right side of her neck which grew very rapidly until now the whole side of the neck is enormously enlarged, and there is some solidity of the thorax in the mediastinum, presumably from involvement of the glands there. The blood-count ten days ago showed 20,000 leucocytes, but now only 10,000. The temperature has been 98° F. in the morning and 101° to 102° in the afternoon.

Dr. Hunter reported a case of strangulated hernia operated upon with apparently good results, but followed by a pulsating tumor over the femoral artery.

Uncertainty was felt as to whether this was a varicose aneurism, or a true aneurism of the femoral. Treatment by the pressure method was tried but without result, and operation was resorted to, when it was found to be a true aneurism of the femoral artery. All the arteries were found atheromatous, and it was thought that in the former operation the weakened femorals had given way under the strain of vomiting. The toes were blue and some black spots occurred, but all are disappearing now, and a complete recovery is apparent.

Dr. Schwyzer, of Minneapolis, reported briefly a case of gun-shot wound of the shoulder, wherein both artery and vein and also the posterior cord of the brachial plexus were involved. Separate aneurisms formed in both vessels. Treatment by pressure was tried, but without result, though the subsequent operation was successful. He mentioned, incidentally, that a Japanese surgeon has advocated ligation of both artery and vein as a cure for aneurism of the femoral artery, and that he reported a series of 20 cases treated successfully by this method.

Dr. Bell, of Minneapolis, reported that he had seen both of the cases just reported, and he thought the failure to obtain results from the pressure method of treating the aneurisms was due to the fact that mechanical means were used instead of digital pressure.

The paper of the evening was then read by Dr. George Douglas Head, of Minneapolis, entitled "Tuberculin as a Diagnostic Agent—A Study of Eighty Cases."

A very animated and instructive discussion followed, participated in by Drs. Nippert, Taylor, Westbrook, Hunter, Stewart, Sweetser, Bell, Beard, Rees, Woodward, and by Dr. Head in closing. Dr. Head's paper will be published in one of the Eastern journals.

The Academy adjourned at 10:30.

MEETING OF THE EXECUTIVE COUNCIL

A short session of the committee was held just prior to the call to dinner. The program for future meetings was discussed and arranged for. Dr. E. M. Lundholm, of St. Paul, and Dr. M. R. Wilcox, of Minneapolis, candidates for active membership, were declared elected, and were invited to prepare theses.

ARTHUR W. DUNNING, M. D., Secretary.

HENNEPIN COUNTY MEDICAL SOCIETY

A mid-monthly meeting of the Hennepin County Society was held December 17th, Dr. J. A. Crosby, the vice-president, in the chair and 30 members present.

The scientific program, as prepared for the year, 1906-1907, was read, as follows:

PROGRAM OF THE HENNEPIN COUNTY MEDICAL SOCIETY FROM SEPTEMBER

1906, TO JUNE, 1907

September 17, 1906

Treatment of Club-foot in Infants...Dr. C. A. Reed
Discussion opened by.....Dr. Emil Geist

October 1, 1906

Symposium on Graves' Disease—
Etiology and Pathology.....Dr. S. Marx White
Diagnosis and Medical Treatment...Dr. J. W. Bell
Surgical Treatment.....Dr. J. W. Little

October 15, 1906

Early Diagnosis of Carcinoma—
From Laboratory Standpoint, with Lantern
SlidesDr. J. Frank Corbett
From the Surgical Standpoint....Dr. R. E. Farr

November 5, 1906

Extra-uterine Pregnancy.....Dr. A. E. Benjamin
An Alleged Neoplasm.....Dr. W. N. Porteous

November 19, 1906

Fee-Bill—Report of the Committee—
BusinessDr. C. J. Spratt

December 3, 1906

Recent Views Regarding the Treatment of
Acute Bright's Disease.....Dr. L. W. Day
Typhoid Fever in the Aged....Dr. A. S. Hamilton
Discussion opened by.....Dr. Geo. D. Head
Surgical Diagnosis.....Dr. J. E. Moore

December 17, 1906

Use of the Library.....Dr. J. C. Litzenberg
 Diagnosis of Ulcer of the Stomach, Dr. Geo. D. Head

January 7, 1907

Annual Meeting, President's Address—The
 Hennepin County Medical Society—Retrospective and Prospective.—Fourth of July
 Accidents—What Can Be Accomplished in
 Minneapolis Towards Stopping Them....
Dr. Frank C. Todd
 Election of Officers

January 21, 1907

The Influence of the Ductless Glands over
 Metabolism, with Illustrative Cases.....
Dr. Leo M. Crafts
 Carcinoma of the Larynx.....Dr. J. A. Watson
 February 4, 1907

Use of the X-Ray in Fractures....Dr. J. M. Lewis
 Prescribing Alcohol.....Dr. J. A. Crosby

February 18, 1907

Administration of Mercury in the Treatment
 of Syphilis.....Dr. Geo. P. Crume
 Ophthalmoscope as an Aid to Diagnosis.....
Dr. J. S. Macnie
 Empyema.....Dr. A. T. Mann

March 4, 1907

Infection of the Uterus.....Dr. G. C. Barton
 Endometritis.....Dr. A. W. Abbott

March 18, 1907

"La Diète Hydrique" in Gastro-intestinal In-
 fections.....Dr. R. O. Beard
 Diagnosis of Diseases of the Thorax, Pre-
 senting Symptoms of Affections of Abdom-
 inal and Pelvic Organs.....Dr. L. A. Nippert

April 1, 1907

BANQUET

April 16, 1907

Nephritis.....Dr. G. D. Haggard
 Some Unusual Kidney Conditions...Dr. J. G. Cross

May 6, 1907

Spleen in Typhoid Fever.....Dr. C. H. Bradley
 Treatment of Empyema of the Antrum....
Dr. E. H. Parker

May 20, 1907

Symposium on General Anesthesia, Transi-
 tory General Anesthesia including Nitrous
 Oxid, Ethyl Chloride, Somnoform.....
Dr. Thos. Hartzell
 Chloroform versus Ether Anesthesia.....
Dr. Cora Roberts
 Discussion opened by.....Dr. F. R. Wright

June 3, 1907

Diphtheria from the Clinical Standpoint....
Dr. E. K. Green
 Artificial Congestive Hyperemia After Prof.
 Biers.....Dr. Herman A. Bouman

The regular program being in order, Dr. J. C. Litzenberg read a paper with the title "Uses of the Medical Library." The essayist strongly recommended that the Society should establish a circulating bureau and permit the journals to be taken out and returned by members under certain restrictions.

Dr. Hunter moved that Dr. Litzenberg's recommendation be published in the JOURNAL-LANCET so that all members who were interested might be informed in regard to the matter. Carried. The paper was discussed by Drs. L. W. Day, F. A. Knights, C. H. Hunter, C. N. Spratt, G. D. Head, C. J. Spratt, A. E. Benjamin, and J. Frank Corbett. The discussion was closed by the essayist.

Dr. G. D. Head read a paper with the title "Diagnosis of Gastric Ulcer." The paper was discussed by Drs. S. M. White, J. Frank Corbett, F. A. Dunsmoor, L. W. Day, and A. E. Benjamin, and discussion was closed by Dr. Head.

C. H. BRADLEY, M. D., Secretary.

ST. LOUIS COUNTY SOCIETY

The annual banquet and election of the St. Louis County Medical Society was held December 13 at the Spalding Hotel.

Forty-five members sampled the fare and pronounced it good. The report of the year's work showed a list of 18 new members admitted during the year, though the net gain was only 9, making our present membership 96 and three applications awaiting the report of the Board of Censors.

During the year there was organized among the members a Pathological Section of about 20 members, and another section devoting its energies toward solving the problem of the quack practitioners.

Dr. C. E. Lum was elected president for 1907; Dr. J. B. Weston, first vice-president; Dr. R. J. Sewell, second vice-president. Drs. A. J. Brown, J. M. Robinson and J. M. Tufty comprise the Board of Censors, and the Library Board consists of Drs. E. L. Twohy, W. R. Bagley, and C. R. Keyes. Delegates to House of Delegates are Drs. A. C. Taylor and J. J. Eklund, with Drs. S. W. Boyer and J. M. Robinson as alternates.

A resolution was also introduced approving the schedule of life insurance examinations.

C. W. TAYLOR, M. D., Secretary.

THE SOUTHWESTERN SOCIETY

The annual meeting of the Southwestern Medical Society will be held in Pipestone, Minn., on January 10th, 1907, beginning at 6 p. m. Officers will be elected for the coming year, and other business of general interest to the Society will come up for action. The scientific program will be interesting, and it is desired that every member be present.

EMIL KING, M. D., Secretary.

NEWS ITEMS

Dr. W. H. Cuthbert has located in Canton, S. D.

Dr. I. F. Seely, of Faribault, has located in Plummer.

Dr. J. H. Graham, of Fargo, N. D., has moved to Grafton, N. D.

Dr. W. G. Wendell will move from Enderlin, N. D., to Courtenay, N. D.

Dr. Cyrus K. Bartlett, of Minneapolis, died on Dec. 27th, at the age of 76

Dr. J. P. Ryan, of Grafton, N. D., has accepted a position in a hospital in Vancouver, B. C.

Dr. R. R. Hogue, of Linton, N. D., recently suffered a loss of \$4,000 by a fire in his hospital.

Dr. Robert Farrish has given up practice at Sherburne and will probably locate in St. Paul.

Dr. G. P. Ferree, who has practiced in Paynesville for fifteen years, has gone to Oklahoma to live.

Dr. N. D. Pearce, of Chisholm, has moved to Hibbing and is succeeded by Dr. Carey, of Hibbing.

The Clyde (N. D.) Hospital, of which Dr. J. A. McKay has charge, will be opened in a few days.

Dr. S. W. Minshall, of Missoula, Montana, died last month. He had been South for his health.

Dr. J. G. McKay, of Big Timber, Montana, has sold his practice and will move to British Columbia.

The Lutherans of Minneapolis are endeavoring to raise a fund of \$50,000 for a hospital for tuberculosis.

Dr. R. B. Hixson, of Cambridge, has opened a private hospital with Mrs. Martha Stinson as head nurse.

Dr. R. J. Phelan, of Belle Plaine, has moved to Minneapolis, after practicing two years in Belle Plaine.

Dr. Jane Hughes, of Mankato, has decided to close her maternity hospital and resume general practice.

Dr. F. W. Butlen, of Eveleth, has gone East and will probably go to Germany for special work in surgery.

Dr. F. C. Dolder, of Chicago, has located at St. Charles, and entered into partnership with Dr. O. R. Olsen.

Dr. T. A. Bayley, of Springfield, was married on Thanksgiving day to Miss Thora M. Dalsgaard, of the same place.

The district court of Aberdeen, S. D., has decided that chiropractics do not have to have a license to practice in that state.

The Mandan (N. D.) Commercial Club is endeavoring to secure support in a hospital project. A hospital is greatly needed at that point.

The Western Congress of Tuberculosis will meet in Minneapolis next month. The exhibit on tuberculosis will be one of the most complete ever made.

Dr. Charles Griswold, of North St. Paul, died last week at the age of 74. He was a Methodist minister at one time, and a chaplain of a Minnesota regiment in the Civil War.

Dr. W. J. Mayo has been tendered a place on the Board of Regents of the State University by Governor Johnson. The medical profession of the state hopes he will accept the position.

Dr. C. F. Tuomy, who was formerly an assistant in the State Hospital at St. Peter, has returned to that city and begun general practice. He has been doing special work in New York City, mainly in obstetrics.

After saving a man's life by skillful surgical work, Dr. J. D. Windell, of Minot, N. D., was sued for \$10,000, the claim being that one of the patient's legs was shortened. Dr. Windell won his suit without a witness.

Dr. L. W. Babcock, of Wadena, died Christmas morning in St. Luke's Hospital, St. Paul. Dr. Babcock was a prominent figure in Minnesota for a great many years, and was speaker of the state legislature in 1902.

The Devils Lake (N. D.) District Medical Society held its annual meeting in December, and elected the following officers for 1907: President, Dr. W. F. Sihler, Devils Lake; vice-president, Dr. G. F. Drew, Crary; secretary, Dr. Clinton Smith, Devils Lake; delegate, Dr. A. T. Horsman, Devils Lake.

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THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

VOL. XXVII

JANUARY 15, 1907

No. 2

THE SURGICAL TREATMENT OF PYLORIC STENOSIS, WITH REPORT OF CASES*

By JUDD U. GOODRICH, M. D.

ST. PAUL

No one surgeon has had sufficient experience in the treatment of pyloric stenosis in infants to warrant him in drawing any definite conclusions. Dr. Charles L. Scudder is entitled to much credit for having collected all cases reported up to January 1, 1905, and embodying them in his paper in such a manner as to make it of the greatest value to the profession.

One can scarcely read Dr. Scudder's paper carefully without forming a pretty definite idea as to the etiology, pathology, prognosis, symptomatology, and treatment of the disease. The following remarks relative to the surgical aspect of the condition, are based largely upon this paper. Scudder concludes from a study of the cases of pyloric obstruction in infants, compiled by him, that the expectant plan of treatment offers but little hope of complete cure. He believes we should operate as soon as the diagnosis has been made, though undoubtedly a few cases, where the obstruction is not extreme, do recover, temporarily at least, under proper diet, lavage, rectal feeding, and anodynes.

Botten, in the London Lancet, 1899, reports an apparent cure by such means. The child died when eleven months old from an acute enteritis, and it was found at autopsy that there still existed nearly a complete obstruction. How much the acute disease had aggravated the chronic one, must be a matter of conjecture.

Stamm, Saunders, Finkelstein, and Senator

report recovery in cases of partial stenosis. Dr. Scudder feels that there possibly exists in these cases a relative stenosis which may at any time become complete, or they may have, at indefinite intervals, gastric disturbances directly dependent upon obstruction. Further observation of such cases will determine the validity of this view. Once the diagnosis is firmly established, postponement of operation only allows the emaciation to become more and more extreme and the child a less fit subject for surgery. The condition at best, is a grave one to deal with as is verified by the mortality record. Extreme emaciation; anemia; a small bowel with thin tender walls, all increase the dangers and difficulties.

The various operations employed in analogous conditions in the adult have been used in this class of cases, i.e., Loreta's operation; pyloroplasty; pylorotomy; gastro-enterostomy, both anterior and posterior; Finney's method being the only one not yet tried.

Scudder has collected 60 cases that were operated on between 1899 and October, 1904, with a total mortality of 46.6 per cent. Of these 60 operations there were:—

Gastro-enterostomies, 40. Mortality, 47.7 per cent.

Loreta's operation, 11. Mortality, 36.3 per cent.

Pyloroplasty, 8. Mortality, 50 per cent.

Pylorotomy, 1. Mortality, 100 per cent.

Whether the anastomosis was anterior or posterior seems to have made little difference in, the

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death-rate. Loreta's operation yields the lowest mortality, but, owing to several failures in the after-results, Scudder concludes that a gastro-enterostomy should be the operation of choice.

Meltzer of New York operated on the first case in 1898. Lofker a little later obtained the first successful result. It is noted that several of the fatal issues were due to faulty technic. Marked improvements have been made in stomach surgery since the first of these cases were reported, and it is fair to assume that the next series of 60 operative cases will show a lower mortality.

It is true that these cases are poor ones for major surgery, yet the three that I have seen have stood operation remarkably well; and while rapidity of work is important, I do not believe it is essential if unusual care be taken in the control of hemorrhage, the maintenance of body heat, and the undue handling of the viscera. That portion only of the viscus or viscera intimately concerned in the operation should be brought out of the peritoneal cavity, and all other contiguous portions of the viscera should be well protected by gauze, as in other cases. Clamps properly placed should control hemorrhage and the escape of stomach or intestinal contents. In placing the sutures it should be remembered that the bowel-wall is abnormally thin, due to the extreme emaciation, and will permit of but little tension. In these cases, as in any case of gastro-intestinal surgery, it is scarcely necessary to comment on the relative merits of suture and mechanical devices for anastomosis, the former method being almost invariably the one of choice.

The Loreta operation may be applicable in those few cases when the pyloric opening is not completely occluded. But, owing to the greater liability to accident and bad after-results, as cicatrix at point of divulsion, perforation with subsequent peritonitis, and recurrence of the obstruction, it will scarcely become the logical operation.

Pylorotomy is too severe an operation.

Pyloroplasty may be used in a few cases in which the tumor is small and in which it can be done without kinking the gut. Moynihan and Robson think that, because of the thickness of the pyloric ring, these cases are peculiarly suitable for the plastic operation. Scudder scarcely coincides with them in this statement. My own feeling in the matter is that, owing to the relative size of the tumor, its density, and inelasticity, this operation would be more difficult of execution than a gastro-intestinal anastomosis, a perfect approximation of the wound at its angles uncertain, and the patulousness of the orifice somewhat doubtful because of the extreme thickness and reduplication of the mucous membrane. On

the other hand, it necessitates but little manipulation, and maintains the normal position of the stomach outlet. Scudder sums up the choice of methods as follows:

"The posterior gastro-enterostomy, without a loop, made as close to the origin of the jejunum as is possible, has first choice. A Finney operation, a Kocher gastro-duodenostomy, and a pyloroplasty in some cases, may be of value. The whole matter is too unsettled to definitely commit myself to any procedure."

The after-care of these patients is of the utmost importance. In most instances the case is in extremis before operation is allowed or advised. Add to this the depressing effects of anesthesia, laparotomy, pain, and nausea following, and the wisdom of attention to the minutest details is apparent. Sufficient opiate should be used to control pain, as in laparotomies generally; and there should be stimulation according to the requirements of the circulation, preferably with whiskey given by the bowel in normal saline. A nutritive enema of diluted peptonized milk should be given about every six hours. As soon as the nausea has ceased, very dilute buttermilk, peptonized milk, bouillon, or one of the cereal waters should be given by mouth. The quantity should be from fifteen to thirty drops every hour, well diluted and previously sterilized. This amount may be gradually increased to double or triple, and after the strength and competency of the new sluice-way has been tested, say on the seventh or eighth day, the baby should be given as much food as it can digest and assimilate. As the amount of food by mouth is increased, the bowel alimentation should be diminished.

The operation should always be immediately preceded by a stomach lavage of normal salt solution, to remove any residual food or secretions. Pyloric stenosis in children has been too recently recognized to ascertain what changes occur in the pathologic condition subsequent to the relief of obstruction. The natural inference would be that the hypertrophied tissue will become normal or be replaced by it, the pyloric orifice again become patulous, and the original food circuit re-established.

I append the report of one new case, operated upon by me.

Baby G., operated upon December 30, 1905. History as previously given by Dr. Ramsey: Gastrojejunostomy without a twist; Connell stitch; silk sutures; small Moynihan clamps used. On the fifth day it developed an acute enteritis, passing dark-green stools and mucus. Died in a convulsion at the end of the fifth day. The post-mortem showed no evidences of peritonitis.

PYLORIC STENOSIS IN INFANTS, WITH REPORT OF TWO CASES*

BY WALTER R. RAMSEY, M. D.

Instructor in Diseases of Children, University of Minnesota; and Visiting Physician to the
St. Paul City and County Hospital and Free Dispensary.

ST. PAUL

Pyloric stenosis as a primary condition in infants was first described by Beardsley, in 1788, and is the first case reported in medical literature. In 1841 Williamson reported the second case of pyloric stenosis, the child dying when five weeks old. In 1842 Dowoski reported the third case, which died at five weeks. From the time that Dowoski reported this case until Hirschsprung of Copenhagen reported a case in 1888, a period of forty-six years, medical literature contains no clinical instances of infantile pyloric stenosis.

In the May and June (1905) numbers of the *Journal of the A. M. A.*, appeared two articles by Charles L. Scudder and William C. Zumby, of Boston, in which they analyze 115 cases of pyloric stenosis in infants. This article is so complete a résumé of the subject up to one year ago that I have simply made a brief of it, and shall append a history of our two cases.

SUMMARY OF REPORTED CASES

There are available records of some 55 autopsies of cases of infantile pyloric stenosis treated medically (the other 60 were treated surgically), and there is a great uniformity in the returns from autopsy records. In every instance a pyloric tumor is mentioned—a tumor unassociated with adhesions of any kind, varying in size, and likened to a “walnut,” to a hazelnut, or to a marble. The pyloric tumor in each instance was very firm. It is described as being “hard,” “very hard,” “cartilaginous-like,” and scirrhus. “It creaked under the cut of the knife.”

Careful microscopic examination of this movable circumscribed hard pyloric tumor, shows that the enlargement in every instance is due chiefly to a hyperplasia of the circular muscular fibres, and once the longitudinal muscular fibres were found increased in size. Because of the circular constriction of the pylorus, the mucous membrane, in most instances, was thrown into more or less marked longitudinal folds. These longitudinal folds of mucous membrane are of importance in connection with the treatment of these cases, and obviously they may obstruct the lumen

of the pylorus. Cautley describes a single large longitudinal reduplication of the mucous membrane lying in the posterior wall of the pylorus. The varying thickness of the several layers of the pylorus and stomach has been carefully measured, both macroscopically and microscopically, by Gran, in 1896, and also by Still of London, in 1899. The important fact demonstrated by these careful measurements is, that the essential pathological change in these cases is primarily an enormous hyperplasia of the circular muscular fibres of the pylorus and of the adjoining stomach-wall.

The degree of stenosis does not always bear a definite relation to the extent of the hypertrophy. The stenosis is variable, and the pyloric orifice is described as of different sizes.

The lumen of the normal pylorus bears a definite relation to the physiologic needs of the individual. If the lumen is reduced beyond a certain point, there is a stasis or obstruction, and consequently symptoms of such stasis or obstruction appear.

It has been noted that even though a steel sound will pass through the pylorus with comparative ease, yet fluid cannot always be made to pass. The obstruction to the fluid is due to the swollen and reduplicated mucous membrane. These folds are pressed aside by the sound. In most instances, in addition to the pyloric changes, secondary changes are found in the stomach. The muscular wall is found thickened, especially through the pyloric segment. This muscular hypertrophy is found commonly in those cases which have died early. They have not lived long enough for dilatation to succeed hypertrophy.

SYMPTOMS OF PYLORIC STENOSIS

The clinical history of the entire 115 cases is available. The symptoms are found to depend on the degree of the stenosis at the pylorus. The cases group themselves then into those having complete obstruction and those with partial obstruction. The symptoms are vomiting, constipation, the presence of a pyloric tumor, progressive wasting, visible gastric peristalsis, and, latterly, a dilated stomach. Vomiting is the first symptom, and may begin on the day of birth, the day after, or may be delayed for days or weeks,

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according to the degree of the stenosis. In 52 cases the average time from birth at which vomiting appeared was 17 days.

The vomiting is forcible, very expressive. It is apparently not influenced primarily by the quality of the food. Many cases are breast-fed. It is influenced, though, by the quantity of the food. It occurs usually immediately after a feeding, or within half an hour. It may skip one or two feedings, and then vomit the accumulated feedings.

The vomit usually contains no bile. In two cases reported, bile was present in the vomitus. In one case, because bile was present in the vomitus, the operation was deferred, and the child died. Constipation is a usual symptom, but some cases of diarrhea have been reported. The degree of constipation depends upon the amount of food passing the pylorus. The child is inordinately hungry, and is pacified temporarily by food, but soon shows signs of distress, when the contractions of the stomach begin, which is soon followed by vomiting. The tongue is usually clean and moist. The contractions of the stomach are often so marked that visible waves may be seen passing from left to right, and ending at the pylorus. These waves are noticeable early in the course of the trouble. In the cases which had been ill longest and in which there was a greatly dilated stomach, peristaltic waves were seen less frequently. The tumor at the pylorus may become visible only when the pyloric end of the stomach contracts violently. In only 18 cases of these reported was a tumor reported as having been palpated before autopsy.

The rapidity of the wasting is apparently not dependent on the degree of stenosis. A moderate stenosis may be attended by great wasting. The typical cases will always prove difficult of diagnosis, and it is necessary to keep constantly in mind the classical signs. A careful study of the so-called "persistent dyspepsias" of infancy will again and again in the future discover a pyloric stenosis. The fact that a baby on breast-milk vomits persistently, should be looked on with suspicion. There also is evidence that an infantile stenosis may exist through childhood without any very striking manifestations of its presence, and may become apparent later in life. Beardsley reports the case of a child who lived to the age of five years with symptoms of pyloric stenosis from birth. The autopsy corroborated the clinical evidence. Hansy operated on a boy eleven years old who had gastric disturbance from birth. A dilated stomach, vomiting, and emaciation were the chief symptoms. A tumor was found at the pylorus 7 cm. long and 2 cm. thick. There were no

cicatrices, adhesions, or ulcerations suggesting a previous inflammatory process.

The number of cases treated medically which are reported as having recovered, is very small.

Finkelstein, Senator, Saunders, and Stamm report instances of recovery from partial stenosis by lavage of the stomach, rectal feeding, laxatives, and small doses of opium. Of course the correctness of the diagnosis in these cases can never be absolutely established.

During the past year J. Crozier Griffith (Archives of Pediatrics, October, 1905) reports a case of pyloric stenosis which recovered. Vomiting began when child was sixteen days old. There was no gas or fecal matter passed for about three weeks, then fecal matter began to appear in small amounts, gradually increasing in amount, and the vomiting began to be less frequent.

Peristaltic waves were seen from the first, and these persisted for some time after the complete stenosis was relieved, and gradually disappeared. This child was apparently well more than two years later.

The two cases which I shall report are as follows:

CASE 1. Baby Good. (Patient of Dr. Goodrich.) Instrumental delivery, October, 1905. As result of the pressure of the forceps had a small hematoma over occipital region. Began to have green and offensive stools soon after first nursing, with temperature and increased pulse. Taken off the breast and put on barley-water. Stools rapidly improved in character and temperature became normal. When two weeks old began to vomit, and for the next four days vomited after every feeding. Vomiting was forcible, and occurred about twenty minutes after feeding. Dr. Goodrich and I saw the case together on the fourth day of the vomiting.

I made the following notes from the examination:

Male child, fairly well nourished, good color. Temperature 100° F., by rectum; pulse 110, and of good quality. Has just vomited some clear albumin water which was given twenty minutes before. No bile in vomitus. Abdomen soft and flat. No gas has passed bowel for several days. No voluntary movements from bowel, but flushing with normal salt brings only occasional small masses of dark-greenish color, mostly mucus, but no fecal matter since vomiting began. Nothing can be felt in the region of the stomach. Several teaspoonfuls of albumin water were given and the abdomen watched closely. After a few minutes (about five) peristaltic waves could be seen passing from left to right, sometimes in successive waves, and then again only occasionally. No gurgling could be heard over the abdomen

anywhere with the stethoscope, even during the time that the peristaltic waves were the strongest. No vomiting occurred until after we left the house, but occurred, the nurse said, directly afterward. This longer interval after the feeding was undoubtedly due to the fact that only a very small amount of albumin water was given. Orders were given to have the milk thoroughly peptonized, and 20 drops given every half hour.

On November 10th, Dr. Goodrich reports that after twenty-four hours the entire accumulated amount given was vomited, and the character of the stools remained the same. November 13th.—Has continued to vomit everything. No fecal matter in stools, but passed some gas by bowel day before. Temperature normal; pulse 120. The same day a semi-solid stool, the size of the first phalanx of the little finger, was passed, consisting of bile chiefly, with small curds the size of a pinhead intermixed. November 15th.—Had good-sized stool; yellow. Feeding by rectum having been instituted, it is probable the stool was simply the residue from the nutritives. Vomiting now occurs less frequently, but baby continues to lose weight. Operation advised, but refused by parents. December 29th.—Baby seen with Drs. Goodrich and Dennis. Baby now much emaciated. Stomach distended. Peristaltic waves on a level with umbilicus. Vomiting continuous. Operation recommended. This was permitted, and baby was sent to hospital where it was operated upon by Dr. Goodrich the following morning.

Autopsy.—Abdominal wound clean; intestines normal; no redness of stomach walls except at point of operation. Stomach removed. Part of transverse colon and loop of intestine sutured to stomach-wall. Hard tumor, size of a pecan-nut at pylorus. Sutures covered with exudate in process of healing; some injection of vessels at point anterior and to left. At the office I tied off the cardiac end, and inflated the stomach with air by blowing through a glass tube inserted through the pylorus. The glass tube was one-eighth inch in diameter, and entered without much resistance. It was noticed that when the tube was withdrawn that no air escaped and could not be forced out by any amount of pressure on the stomach-walls. The stomach was emptied of air by introducing the tube, and was refilled with a formaline solution. It was found that when the tube was withdrawn, the fluid did not escape. The pylorus was then opened on the upper border in the long axis, and it was found that the mucous membrane was thrown into longitudinal folds, which acted as a valve and completed the obstruction of the opening. A small section of the tumor was hardened, and sectionis show, as have all of these cases, a

marked hyperplasia of the circular muscular fibres. The walls of the stomach were markedly thickened.

CASE 2. Baby C. Son of Dr. C., of Staples, Minn. Born February 6th. Age when seen, two months and five days. Weighed seven pounds at birth. Strong, vigorous baby. Normal delivery. Nursed for two weeks, when it began to vomit. Vomited after every feeding, usually directly after, and seemed much distressed until relieved by vomiting. Stools were never green or of bad odor, but persistently constipated. Has had to have enemata from birth. Stools have been very small in size, not bigger than half of the little finger, and only one daily. After vomiting began the baby was taken off the breast, and various foods were tried. It was found that when the food was given in small amounts and very dilute, it vomited less. The baby continued to lose in weight. When it was two months old the doctor wrote me, and asked me about the feedings. I advised him to bring the baby to St. Paul, which he did the following day. The conditions were then as follows:

Baby much emaciated, weighing a trifle over five pounds, a loss of almost two pounds since birth. Upon exposing the abdomen, large peristaltic waves could be seen beginning at the left costal border, about the seventh to the ninth rib, and extending in an oblique direction downward and to the left, and ending a little to the right and below the umbilicus. The lower border of the wave extends one-fourth inch below the umbilicus. These waves followed each other in quick succession, so that before one had ended at the pylorus another was starting from the costal margin. These waves were circular in shape, and in the center of the circle were raised fully one-fourth inch above the margin. When the baby was asleep and the abdominal muscles relaxed, I could feel a tumor at the pylorus when the peristaltic wave ended at this point. The temperature was 96.4° F. by rectum, and the pulse 120. The circulation was rather bad; there was some general cyanosis.

I made a diagnosis of partial obstruction of the pylorus, and advised operation if the child could be gotten into a little better condition after a few days. The baby was sent to St. Luke's Hospital and was fed one and one-half ounces at each feeding. It had three feedings during the night, and did not vomit until morning, when it vomited about three ounces at one time. It was then given a feeding consisting of one-half ounce of barley water and one-half ounce buttermilk formula every hour during the day, and only two feedings at night. Upon this feeding it vomited only once during the following three days. It was given an enema once daily and had

a fairly normal-looking movement.

Early in the morning of April 17th, the baby collapsed, and died soon after.

Partial Autopsy of Abdomen.—Stomach occupied position, the lower border being slightly below the umbilicus. A hard tumor the size of a pecan-nut at the pylorus. No adhesions or any other evidences of inflammation could be found. Stomach and part of duodenum removed. Small-sized probe could be passed with difficulty

through the pylorus from without. The folds of mucous membrane did not obstruct the opening as they did in the other case. The walls of the stomach were much thickened as will be seen from the specimen, and is a result of the continuous efforts at trying to force its contents through this very narrow opening. Sections of the tumor show a condition identical with the other, i.e., a marked hyperplasia of the circular muscular coat surrounding the pylorus.

THREE GOITRE CASES OF ESPECIAL INTEREST*

BY GUSTAV SCHWYZER, M. D.

MINNEAPOLIS

The macroscopical inspection of the three goitre specimens I will pass around is sufficient to recognize their various pathological character. Just as different clinically and surgically, each one leading on to a chapter which has always interested the physician, I take the liberty to describe them to you somewhat in detail.

The smallest specimen of the three represents a hemorrhagic goitre with subsequent peristramitis. A section of it you will find under the microscope.

We learn from the fifty-year old man that no other goitre existed in his family. He was born and reared in France. He has been in this country twenty-two years. About ten years ago he noticed, for the first time in his life, a swelling in the middle of his neck. Medical treatment at that time was of no avail. The patient never had choking spells or any other discomfort through his goitre. He worked the last few years as a lumberman, and was never sick. On Sept. 20, 1905, that is, five days before the patient came to our office, he suddenly felt, while lifting a heavy scraper requiring great muscular effort, a pronounced and severe pain in his goitre, a pain which was shooting up to his left ear and temple. Though not entirely disabled for work he noticed that the tumor on his neck became about twice its size within a few hours. The great distress caused by the painful tumor brought the patient to the surgeon.

The tall and healthy looking man with normal breast and abdominal organs had a temperature of 99° and a pulse of 89. His voluminous neck was due to the goitre, which involved the left half of the thyroid gland and its isthmus. It extended sideways from the hind border of the left sternocleidomastoid muscle to the anterior border of the right

sternocleidomastoid. Its upper border is the ring cartilage; its lower border fills out the cavity above the jugulum sterni. The surface of the tumor is smooth, and the covering skin is not adherent. The tumor is of hard, elastic consistency, and follows the deglutition. The goitre is markedly painful by moving it upward. The vocal cords act normally, and the larynx is pushed one fingerbreadth to the right and is somewhat twisted in its horizontal diameter. The upper thyroid artery is distinctly to be felt, and the right thyroid half is of normal configuration. There are no exophthalmic symptoms.

The operation was done Sept. 28, 1905, under local cocaine anesthesia, the unusual feature being the pronounced peristramitis, which made it impossible to luxate the goitre, as usually done, and there was no other way than to split the sternal portion of the left sternocleidomastoid muscle and to dissect the tumor off from its multiple and strong adhesions to the neighborhood. The operation was completed in our usual way. The quite profuse bleeding from the hind capsule was controlled by continuous catgut suture. The sternocleidomastoid was re-united with silk. Silk was used also for ligatures and the skin.

The patient left the hospital two and one-half weeks after the operation, with a normal voice, using his left sternocleidomastoid muscle as well as the right one.

As to the clinical diagnosis of the case, we may say that the sudden and vehement onset of pain, immediately followed by the enlargement of the goitre in a man of fifty years whose neck is painful by touch, and whose temperature is subfebrile, 99°, with a pulse of 89, must lead either to an inflammatory process of or about the goitre—strumitis or peristramitis—or to struma maligna.

Before we try to explain this combination of

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hemorrhagic goitre with peristrumitis, we will analyze the differential diagnosis.

A struma acuta may be mentioned, but is excluded by the fact that the patient had had a goitre for ten years; and, besides this, struma acuta would not cause any pain or fever.

It is difficult and sometimes impossible to differentiate between a hemorrhagic goitre and an acute strumitis, especially if, as in our case, the rapidly increased goitre causes pain, infiltration in the surrounding tissue, and slight elevation of temperature. In order to come to a decision we have to make a bacteriological examination. In a fresh case of hemorrhagic goitre we should not find any microorganisms, while the examination of an acute strumitis always gives a positive result. The bacteriological examination was omitted in our case.

May not the pronounced peristrumitis indicate to us that the hemorrhagic goitre became infected and caused the peristrumitis? Knowing that the thyroid gland has no other way of becoming infected than through the blood channels, the germs are either the same ones that already existed in the body in case of sickness, or they are microbes of a different type that gained way into the gland of a body much weakened by sickness. The anamnesis does not speak of any other sickness from the time the goitre became painful or previous to this, but the robust lumberman may have had a slight angina, a bronchitis, or some gastro-intestinal trouble of short duration without paying any attention to it.

Concerning the differential diagnosis between hemorrhagic goitre and struma maligna we may mention that the latter disease develops slowly and lacks a very sudden onset, which was so characteristic in our case.

The second case (Fig 1) represents the type of a struma colloides hyperplastica. A section of it you find under the microscope. The size of the goitre is rather unusual, as you will see when you look at the specimen and the accompanying photograph.

From the anamnesis we learn that the patient noticed a swelling on her neck for the first time at the age of eleven years. It was then large enough to attract the attention of the surrounding people, becoming gradually larger in later years, especially after her confinements. A marked increase of the size set in at the time of the climacterium.

The patient had comparatively little distress. No choking spells ever existed, but she easily became short of breath at the least muscular exertion. Internal treatment has had no effect.

From the status taken April 9, 1905, we will mention the following data: The fleshy woman is 57 years old. Pupils of medium size, equal,

re-act to light and accommodation. Skin of her face, somewhat dry; more so on forearms and legs. Hair on head in good quantity, of dry and rather coarse character. Teeth, totally lacking. Voluminous struma on neck, especially on left side, but also right half of thyroid gland is goitrous. The tumor on the left side is of the size of the head of a new-born child reaching upward to the angle of the lower jaw and to the lower border of the left mastoid region. The posterior border of tumor is marked by the anterior border of the trapezius muscle. It covers the inner third of the clavicular bone, and fills out the suprasternal notch. It can be pushed sideways comparatively freely. Its consistency is solid, elastic. Its covering skin is movable and normal. There is a distinct node the size of a small egg to be felt in the upper horn. The isthmus is marked by an enlargement the size of a small apple. The larynx and trachea are pushed to the right. The ring cartilage is distinctly felt. Tumor follows deglutition very little. The right thyroid half is nodular and about the size of a man's fist. Breathing is remarkably free, taking into consideration the size of the tumor. Pulse, rather weak, but regular about 88. Stridor marked by deep inspiration. Palpation of the neck causes at once a coughing spell, during which the stridor is quite pronounced. The left sternocleidoid is distinctly to be felt at its upper attachment, and is much thinner than usual, being easily traced down to the clavicular bone. The superior thyroid artery is enlarged, and purring can plainly be felt from its entrance into the goitre downward as far as one inch above clavicle.

The operation was done April 11, 1905, under local anesthesia with cocaine. The size of the tumor being the only unusual feature it naturally made manipulation more difficult. The patient stood the operation very well. Ligating the superior and inferior arteries at the beginning greatly reduced the loss of blood.

The patient got out of bed two days afterwards, and sat up in a chair for four hours. She had a few inhalations with creosote and tincture of benzoin comp. on account of some bronchial trouble setting in right after the operation. In a recent letter we learn that the patient's voice, which was somewhat hoarse when she was discharged from the hospital, is only part of the time really clear, that is, a paresis of the left recurrent nerve has not improved and is not likely to after this length of time.

I have often been asked by physicians how much of the thyroid gland can be removed when operating for goitre, and my answer was that this would vary according to the kind of goitre. Let us answer this question somewhat more in detail, applying it also to our case here.

In the first place we have to differentiate between an ordinary benign goitre and the exophthalmic one. In the latter kind we had best remove the biggest part of the gland, for instance the larger half, and if we find that the symptoms, especially the tachycardia, do not sufficiently disappear within a number of weeks, that we notice only a partial improvement, we decide upon a re-

tion. If the goitre involves one side or only a part of one side, as frequently in adenomatous and cystic goitre, enough thyroid tissue will remain to assure a normal secretion after the operation. We know that cystic goitres of most unusual size can safely be removed. This cannot be said of goitres of the hypertrophic type where, as in our case, the whole gland is involved. Here



Fig. 1.

section of the remaining half. Some surgeons even remove in first place a part of the second half, if it proves to be very vascular. This rule cannot be generally applied to the ordinary benign goitre, especially not in a case of the kind just now described. In exophthalmic goitre we have an overfunction of the glandular tissue, in the ordinary goitre the degenerated tissue possibly means to the body a relative decrease of the thyroid secre-

tion. If the goitre involves one side or only a part of one side, as frequently in adenomatous and cystic goitre, enough thyroid tissue will remain to assure a sufficient secretion. If the operation goes beyond the physiological limit a complex of serious symptoms may develop which are known under the name of tetany. It consists of clonic contractions of the flexor muscles of upper and forearms, setting in hours and sometimes days after the operation. These clonic

contractions soon take a tetanic form. In some cases the muscles of the legs become involved and if the condition progresses it resembles a very serious intoxication. Tetanic cramps of the diaphragm can set in or patient dies in coma. If the tetany does not prove fatal, cachexia thyreopriva may take its place months afterward.

From Billroth's clinic 12 cases were published previous to 1883, of which eight were fatal and two gradually became cachectic. Since the total excision of the thyroid gland has been condemned and restricted to the malignant gland exclusively, we believe to-day that such serious after-complication may be avoided by careful study of the case before and especially after the operation. We have a safe remedy in thyroid substance given by mouth or subcutaneously and necessarily are compelled to make use of it at the slightest onset of muscular cramps. I well remember a case where the mentioned medication was intentionally omitted. The patient was an elderly lady with a voluminous goitre of the hypertrophic type involving the entire gland; the smaller half of the gland was left in. The tetanic cramps in both arms appeared the day following the operation and patient succumbed in coma seven days later.

Our third case leads to the chapter on intrathoracic goitre (*struma profunda*) or goitre plongeant as the French call it. (See Figs. 2 and 3.)

Its history is as follows: Patient whose mother had a goitre all her life, is 63 years old. She was strong and fleshy, weighed two hundred and ten pounds up to one year ago and has steadily grown thinner, so that to-day, she weighs only 140 pounds. For the past 36 years she has a goitre which visibly increased in size the last ten months. Since that time she suffers greatly with dyspnea. A week before I saw her she consulted a physician who helped her temporarily. Six months ago patient had a severe throbbing pain in goitre for one night.

The first time I saw the old lady she was very dyspneic and looked considerably reduced. We could lift the skin up in folds on arms and abdomen. Her pulse though slightly irregular, but otherwise of good quality, counted 140 when quietly resting in a chair. Temperature normal. The lady was breathing with a marked inspiratory stridor due doubtless to a large tumor in the middle and left anterior region of neck. The larynx and trachea are pushed to the right side to a distance of one inch. The solid tumor of the size of a man's fist has a round form and reaches up to the height of the hyoid bone. Its outer limit is the hind border of the sternocleidomuscle, it over-reaches the middle line by one inch to the right and can be felt as distinctly ending in front of the trachea, as we are not able to feel an

isthmus between the two halves of the gland. The lower end of the tumor fills out the jugular notch completely and the palpating finger is not able to reach the lower end of the tumor. All we can state is that the tumor continues toward the thoracic aperture and the palpating finger has no chance to enter in the depth. The manubrium sterni gives a dull sound by percussion at a distance of one and one-half inch from the jugulum. The lady breathing with a marked stridor shows so much distress and is suffocated to such an extent that we are not allowed to do much manipulating, but one thing remains clear that the tumor on the neck can be pushed sideways to some extent but not at all in a vertical sense. A laryngoscopical examination is simply impossible the patient becoming so much suffocated by the first attempt that we had to do without it. Her voice is normal.

Five days previous to the excision of the tumor we ligated the sup. thyroid artery under cocaine anesthesia, calculating that this would reduce the goitre to a small extent and facilitate the extirpation. Cocaine anesthesia also was used for the final excision of the tumor, general anesthesia could not be considered patient breathing so badly that a full half an hour passed before we could find a position where she could lie on the table comfortably enough to let the operation proceed. An almost right-angle incision of skin was made and the goitre freed in the usual manner. By trying to luxate the tumor on neck we noticed that the substernal lobe was a serious obstacle. The veins leading into it were ligated with silk and its capsule freed from the surrounding tissues as far down as this was possible under inspection. The carefully exploring finger was at a loss to determine the exact extent of the pro-found lobe. By this time patient's breathing became more and more difficult and venous bleeding from the depths rendered the situation precarious, so much so that a decisive step had become imperative. We made a serious attempt to luxate the tumor manually and succeeded in bringing the hard lobe in front of the sternum. The immediate relief was striking. The almost choked lady was at once able to take a deep, long breath and the danger was practically over as soon as the hemostasis was completed. The operation was now quietly finished, the tumor excised, leaving a part of its posterior capsule. Patient's voice somewhat hoarse after the operation, has regained its full size and was indeed loud when patient came to my office one week ago.

The drainage opening was definitely closed two and one-half weeks after the operation, and patient tells us that she enjoys, to-day, full health.

The microscopical section of this goitre gives

a very similar picture to the preceding case, that is, we have also a struma hyperplastica colloides. The picture does not give us any explanation for the rapid pulse, that is we do not find the type of cells and their characteristic grouping which the pathology of exophthalmic goitre is based upon. We also can positively exclude malignant degeneration. Clinically we had a suspicion of

and ranging from 160 to 170 for several hours after the operation. The left pneumogastric nerve has its course between the common carotid artery and the subclavia and descends in front of the aortic arch. Also in front of this arch, more toward the middle line lays the plexus cardiacus receiving its supply from the pneumogastricus and the sympatheticus. It is very plausible that the



Fig. 2.

malignancy on account of considerable loss of weight in a lady over 63 years, and because of distinct pain in a tumor which became markedly larger in size, gradually bringing on more and more dyspnea.

How can we explain the rapid pulse in this case where the heart itself does not give any explanation? A pulse marked in the status 140 per m.

retrosternal lobe which is very hard showing calcification and which originates from the left thyroid half, partially situated behind the clavicle, partially under the sternum, may have done injury to some of the mentioned cardiac nerves through pressure. This would explain the tachycardia. Only two days after removal of the goitre the pulse was marked 102 on the hospital chart.

In regard to the diagnosis of intrathoracic goitre we will say that most of the cases mentioned in the literature were only recognized at the autopsy. It is evident that a clinical diagnosis can be made only conditionally. A goitre on the neck with a distinct continuation toward the thoracic aperture is always a sure guide. Much more difficult it becomes when in a dyspneic patient we have to depend on the laryngoscopic picture showing a constriction of the trachea. A goitre from an aberrant thyroid gland intrathoracically developed is practically excluded from a clinical diagnosis.

If the diagnosis is made and the tumor not too voluminous, operative treatment becomes well

an enlargement of the front of the neck as goitre.

The thyroid presents a variety of changes with, fortunately, but a small percentage of the total number malignant ones. I recall from a large series of operated goitres a recent case of hemorrhage into a small goitre of one year's duration in a girl of twenty-five. There were two periods of sudden enlargement from bleeding in the capsule, and the operation performed shortly after the second, showed the partially organized as well as the fresh clot.

The large size of the second case with colloid goitre is interesting from its difficulty. Such goitres are usually very vascular, and require great care in operation. Such cases present the largest type of growth, one of which, in our report, measured 31 inches around, including the back of the neck, which alone was not covered by growth.

Retrosternal growths of the thyroid are not infrequent, and often cause great distress, considering the



Fig. 3.

justified where steadily increasing dyspnea, as in our case, must inevitably lead to a fatal end. Should the size of such tumor necessitate a resection of the sternum, respectively, the ribs, a traumatic pneumothorax cannot be avoided and means a very serious complication. The possibility of a successful removal in such a case is only a relative one even in the hands of most routined surgeons.

DISCUSSION

DR. C. H. MAYO (Rochester): The description of the three cases of goitre by Dr. Schwyzer are most interesting. The laity and many of the profession look upon

During the last year I operated upon one case in which a cystic goitre developed between the esophagus and the trachea. There was no isthmus above the trachea, which rested just beneath the thyroid muscles.

There are two types of operation: enucleation and extirpation. The former should be used in cysts and encapsulated adenomata; and extirpation in Graves' disease, colloid goitre, and malignancy. Enucleation can, by the removal of the entire gland, cause myxedema, but will rarely or never cause tetany or loss of voice, as it will not remove the parathyroid glands or injure the nerve.

Extirpation is necessary in a larger proportion of cases, and great care must be used in preserving the nerve, the parathyroids, and sufficient gland tissue to prevent cachexia.

The parathyroids must be carefully preserved during size of the visible or palpable portion of the gland.

operation, as their removal causes conditions which are not controllable as other damages may be.

I prefer a general anesthesia in the great majority of goitre operations.

DR. GUSTAV SCHWYZER (Essayist): Well recognizing the advantage of a general anesthesia as a comfort for patient and surgeon, I still use local anesthesia on ac-

count of after-hemorrhage, often caused by the unavoidable vomitus following general anesthesia. I also believe that local anesthesia protects against severe lung complication, especially pneumonia, and I think that severe injury of the laryngeal nerve can easier be avoided by using local anesthesia because of the control of the patient's voice while working around the nerve.

CLINICAL MICROSCOPY

CONDUCTED BY GEORGE DOUGLAS HEAD, M. D.

THE NUCLEUS TEST FOR PANCREATIC DISEASE

In *Progressive Medicine*, Vol. VIII, No. 4, page 114, is a résumé of our present knowledge concerning the so-called nucleus test in diseases of the pancreas. This test was first suggested by Adolph Schmidt, of Dresden, in 1904, at the Congress of Internal Medicine. By artificial digestion experiments he first demonstrated that nuclei of cells are digested by the secretion of the pancreas alone. He then passed small pieces of meat through the gastro-intestinal tracts, and after their recovery in the stools examined the muscles fibre for the presence of nuclei.

The meat-balls must not be larger than a pea. They are cut from the round of beef, hardened in alcohol for a few days, and are then tied up in a little bag of Brussels net and kept until ready for use. The mesh of the net should be fairly large so that the balls can be easily discovered in the stools.

The meat-balls are given at the noon meal, and then a laxative is given if necessary to insure their passage through the gastro-intestinal canal within about eighteen hours. The meat must not be too long, namely, more than twenty-four hours, in passing, or the nuclei will be digested by the action of the intestinal bacteria. If the meat is carried through too quickly, less than twelve to fourteen hours, the nuclei may not be digested at all. Schmidt examined the meat fibers for nuclei in acetic acid. Steel objects to this method, and prefers to imbed, cut and stain the meat-balls after their passage through the digestive tract.

Schmidt examined six cases of pancreatic disease, four with and two without autopsy. He also reported a study of 100 cases in healthy persons and patients with gastro-intestinal diseases in which the pancreas was not involved, including cases of cancer of the liver, closure of bile-ducts by stone, catarrhal swelling, achylia with diarrhea, colitis, etc.

In all of these the nuclei of the muscle fibres were always digested. In two cases, with

autopsy, of incomplete lesions of the pancreas the nuclei were digested. In two with complete lesions the nuclei were not digested.

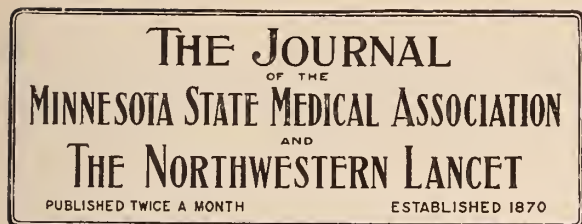
Hemmeter has confirmed Schmidt's findings in a case of pancreatic cyst and one of stenosis of the duct after cholelithiasis.

Steele, in reviewing Schmidt's work, gives his experience in two cases of pancreatic disease and twelve other cases. In one of these the nuclei persisted even though there was every reason to believe that the pancreatic duct was not entirely occluded. In a case of achylia without pancreatic symptoms the nuclei also persisted. Steele believes that much work remains yet to be done before the method can take its place as a reliable laboratory test.

OCCULT BLOOD IN STOOLS OF PATIENTS WITH TYPHOID FEVER

Steele, in *Progressive Medicine*, for December, 1906, reports the results of a study of the stools of 49 cases of typhoid fever for the presence of very small quantities of blood. The guaiac-peroxide and the aloin-turpentine tests were used. A total of 239 observations were made, and 29.5 per cent of the 49 cases gave positive tests. This is lower than Petrachi's series (44 per cent) and higher than Tileston's series (25 per cent). The tests were made in the 2d, 3d, and 4th weeks of the disease. Positive tests were greater in the relapses than in the primary attacks. Mild cases gave the test as often as the severe cases.

The practical usefulness of this test for occult blood in typhoid fever cases lies in the possibility of foretelling more severe hemorrhage. While, in a general way, those cases giving the test are the ones in which visible hemorrhage is most likely to occur, neither the work of Petrachi, Roman, Tileston, or Steele gives evidence that the test is of any great value in foretelling a severe hemorrhage. It probably will be of little value to the clinician dealing with typhoid fever.



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JANUARY 15, 1907

DR. WM. J. MAYO, REGENT

Governor John A. Johnson has appointed Dr. Wm. J. Mayo, of Rochester, on the Board of Regents of the University of Minnesota to take the place of Dr. O. C. Strickler, of New Ulm, whose time has expired.

Dr. Strickler was an energetic member of the Board and was enthusiastic in his efforts to advance the medical department and particularly the establishment of a University hospital near the campus.

Dr. Mayo has served the state for ten years as a member of the State Board of Health and now will enter upon his new duties full of experience and with breadth of mind and of world-wide fame. Naturally, he will be closely associated with the needs of the medical school, and from his daily clinical observations his advice will carry weight with his fellow regents and with the teaching faculty.

When a man who is as busy as Dr. Mayo accepts a position on the Board of Regents of the

State University it means that he recognizes the necessity of public service even though it be a hardship.

Frequent committee and board meetings are not a delight to a busy practitioner, but when a man becomes a power in the state in which he lives he must expect to be called upon to sacrifice his personal and professional work in the interests of the state. The medical profession rejoice that Dr. Mayo was Governor Johnson's choice, not from political motives, as politics was not considered in the appointment, but from the fact that Dr. Mayo is a great man and will add to the personnel of the board.

The establishment of a University hospital adjoining the campus will give Dr. Mayo ample opportunities to advise and instruct the Board of Regents and the legislature as to what is needed for a model and modern hospital. His assistance in matters pertaining to other departments will be equally valuable, as he has had opportunities and experiences which cover a wide field.

WESTERN CONFERENCE ON TUBERCULOSIS

The Western Conference on Tuberculosis which was organized at Chicago in January, 1906, will hold its annual meeting in Minneapolis, Tuesday, February 5th. The organization embraces the following states: Ohio, Michigan, Indiana, Illinois, Missouri, Iowa, Wisconsin, Minnesota, North Dakota, and South Dakota.

The Minnesota State Association for the prevention and relief of tuberculosis will meet Wednesday, February 6th.

During the entire week, beginning February 2d and lasting ten days, the Exhibit of the National Association for the Prevention of Tuberculosis will be the important drawing attraction. This Exhibit is well worth seeing. It consists of charts, photographs, and models collected from all parts of the United States and Europe, bearing upon tuberculosis and its cure.

In Milwaukee, during January, 1906 (two weeks), about 48,000 people visited this Exhibit. It is the best form of education for the general public that can be devised, and is highly instructive to laymen, as well as to physicians. Every physician should urge his families to visit the Exhibit, and to attend the meeting of the Conference and State Association meetings. Many celebrated speakers will be present to deliver addresses, among whom are Dr. John S. Fulton, of Baltimore, one of the most celebrated sanitarians in America. Dr. Beffel, of Mil-

waukee, and Mr. Ernest P. Bicknell, of Chicago, are among the speakers.

These meetings should attract wide attention, and Minneapolis should show her interest in the meetings, as well as in the Exhibit.

The Northwestern Merchants' Association has an excursion rate (one and one-fifth fare) that will make it easy for delegates and others to attend the meetings at a minimum expense.

THE CROW RIVER VALLEY MEDICAL SOCIETY

An enthusiastic meeting of the Crow River Valley Medical Society was held at the Commercial Club rooms in Minneapolis, on February 9. The following papers were read:

"Therapeutic Abortion," by Christian Johnson, M. D., Willmar.

"Management of Gastric Ulcer," by J. W. Bell, M. D., Minneapolis.

"Epigastric Pains Simulating the Pains of Gastric Ulcer," by A. W. Abbott, M. D., Minneapolis.

The papers were very generally discussed, particularly the "Management of Gastric Ulcer," on which nearly every man in the room aired his opinions, medical and surgical. The following conservative opinion was finally accepted: Treat the ulcer, and the patient, medically as long as you dare, and, if not successful, employ a surgeon to cut out the ulcer.

At eleven o'clock a luncheon was served followed by a smoke-social with stories and exhortations on the insurance-fee problem.

The attendance was good, about 40 members being present, seven of whom were from the country, and the others were from Minneapolis and St. Paul. The out-of-town members were: Dr. Christian Johnson, of Willmar, president; Dr. P. C. Pilon, of Paynesville, vice-president; Dr. J. W. Robertson, of Litchfield, secretary; Dr. W. L. Beebe, of St. Cloud; Dr. H. E. Frost, of Willmar, and Dr. F. S. Bissell, of Maple Lake.

In looking over the attendance it reminded one of the Hennepin County Medical Society with a few outside guests, not a very good showing for such a large society as the Crow River Valley Society, for, as Minneapolis is convenient and the Minneapolis members were hosts, it was surprising that so few out-of-town men were present.

This is hardly the way for a district society to grow. The men who should have been in attendance did not take sufficient interest or did not feel like coming so far from home.

The Crow River men are royal hosts, however, and during the summer they entertain their

friends at a lake resort in the country. From all reports the visitors are bountifully entertained at an all-night session, and usually return to their homes with a mighty respect for the vigor and endurance of their hosts.

MEDICAL FEES

The average doctor is only an average business man. Many physicians are below the average when a business problem confronts them, a few rise to an opportunity, and a comparatively few combine a business with a professional training. The question of adequate fees is always perplexing, and, as a rule, the physician does not demand or receive proper compensation for his services. The fault is due to a lack of business training and education and the tendency of the professional man to leniency toward his fellow man. The recent agitation over insurance examination fees has accomplished something, but not enough. Many of the county societies have adopted a standard which they hope to maintain.

The Blue Earth County Medical Society has taken a very decided stand as to insurance fees, and every physician in the county has signed an agreement to charge not less than \$2.00 for fraternal examinations, and every physician in Mankato, except two (note the exceptions), has agreed to charge not less than \$5.00 for old-line examinations. Other societies have agreed to do the same thing, but, unfortunately, there are usually one or two men who decline to stand by such an agreement. This should not discourage the majority, for they are on the right side of a business proposition.

There is still too much sentiment on the part of the physician toward the financial obligation of his patient. Just service, the best the man can give, should be accompanied by monthly statements and prompt settlements, if the doctor and his patient are to be in accord. There is justice in the necessity of elevating the fee-system on the ground that the expense of living is greater and the doctor's services are worth more from every point of view.

Medical science has made great advancement and the advice and opinion of the medical man is worth more to-day than it was ten years ago. As long as the physician underestimates his worth, the public and the corporations will keep his fees down, but when the physician demonstrates his ability, and his conscientious devotion to his patient and his profession, and, in return, demands more gold for his work, he will be rewarded, because the public will see the justice of his claim.

Insurance examination fees are ridiculously low when compared with fees for other services, and the united effort of the profession will accomplish a definite result in spite of the fact that a few are unwilling to stand for what is right. To be known as a cheap doctor ought to be humiliating, but there are men who probably belong to this class and are paid about what is right for the kind of service they offer and perform. It is far better for the profession to be known as men who estimate their services at a fairly high valuation. It means more respect for the profession, as it injects a business proposition into a business transaction.

A county fee-bill may be of value to bolster the weak-kneed brothers, and it may be valuable in litigation, but what the physician needs most is instruction in business methods and a system by which such methods may be carried out successfully.

In many instances the physician's fees are regulated to suit the purse of his patient. This is just, but it is too often permitted to lapse into loose methods and to apply to the very people who are able, and willing, to pay proper fees. The idea that by lowering the fee one physician may hold his case or secure one from his fellow practitioner is erroneous. Let the cheap doctor do this kind of work, or, if you do charity work, do it cheerfully, but with the charity idea in mind. When a valuable service is rendered the fee should be like the lawyer's fee, full compensation.

ANTITOXIN THROUGH THE STATE BOARD OF HEALTH

As announced in another column, the State Board of Health has arranged to supply antitoxin through local health boards to all persons unable to pay for it, and this not only for curative but also for immunizing purposes.

This is a very wise measure, and one that may have far-reaching effects. The cost of antitoxin may not be too great for many persons actually suffering with diphtheria, but it is too great to expect very poor people to use it for immunizing purposes under the various circumstances that arise, and few physicians would care to insist upon its use at all times, and perhaps often at times when their judgment would suggest its use.

The State Board has thrown around its distribution wise precautions, and yet has not hampered its use by red-tape. In cases of emergency, it can be delivered to any post-office in a few hours.

CORRESPONDENCE

REMOVAL OF THE TONSIL

Minneapolis, Jan. 10, 1907.

TO THE EDITOR:

Recent weather conditions have emphasized the role of the tonsil in producing sickness. We are not entirely satisfied that the paper read by Dr. Porteous before a recent meeting of the Hennepin County Medical Society and published in THE JOURNAL-LANCET should not have been more thoroughly threshed over in the discussion for a complete clarification of the subject. A not unusual disregard of the Society for the character of its published proceedings led to the loss of Dr. Todd's concise and illuminating statement, made in the discussion, and what else was said was overtaken by the same oblivion. Your editorial reference to Dr. Porteous' paper and the continued outside discussion recall our unsatisfied interest in the subject. We beg space to add what experience has taught us.

1. The tonsil, in health, is a lymph gland with its function, and is then not treated or removed.

2. When infected the tonsil can no longer perform the function of a lymph gland, but becomes a source of danger to adjacent and distant organs, a relationship admirably brought out in a paper by Dr. Chas. M. Robertson in the Jour. of the A. M. A. for Nov. 24, 1906.

3. As an infected area, not well draining and cleansing itself, the tonsil imperatively demands cleansing in a surgical sense or extirpation.

It is as bad practice to let an infected tonsil go uncared for as it would be in case of an infected appendix, mastoid, cervical gland, or what not.

The disasters noted in Dr. Porteous' paper would lead one, not to timorous inaction, but to move with precision to the desired end, namely, removal of the infected area that it might never again endanger the victim, by one of the following methods *after freeing the gland from the pillars*:

1. Cleansing and destruction of small areas by electrocautery, a timid but efficacious method for a small number of cases (slight infections).

2. The snare.

3. The tonsillotome.

4. The side-hooked vulsellum and the probe-pointed knife.

5. The vulsellum and special scissors (Robertson's), difficult but thorough.

We may reserve consideration of the various methods for another time.

Respectfully,

JANE F. KENNEDY, M. D.

REPORTS OF SOCIETIES

CLAY-BECKER SOCIETY

The annual meeting of the Clay-Becker Society will be held at Moorhead, January 28th, in the evening. As this is the annual business meeting, a full attendance is desired. Supper will be served, and the usual program given.

E. R. BARTON, M. D., Secretary.

THE WATONWAN SOCIETY

The Watonwan Society met in annual session at Dr. C. O. Cooley's office at Madelia, on Dec. 12th, Dr. H. B. Haynes in the chair. After the usual routine work, the Society proceeded to elect officers for the ensuing year. Dr. A. Thompson, of St. James, was elected president; Dr. J. W. McCarthy, of Madelia, vice-president; and Dr. C. O. Cooley, secretary and treasurer. The Censor Committee is composed of Dr. W. H. Rowe, Dr. W. J. McCarthy, and Dr. C. O. Cooley. Dr. W. H. Rowe, of St. James, was elected delegate to the State Medical Society, and Dr. W. J. McCarthy as alternate. The Society then proceeded to the reading and discussion of papers on diseases of the gall-bladder.

C. O. COOLEY, M. D., Secretary.

THE HENNEPIN COUNTY SOCIETY

A special meeting of the Hennepin County Society was held in Dr. Todd's office on Dec. 28th, the president, Dr. F. C. Todd, in the chair.

The chairman announced that the meeting was called to take suitable action in regard to the death of Dr. C. K. Bartlett, one of the members. It was moved that the president appoint a committee to draw up suitable resolutions and a memorial, and that a suitable floral tribute be purchased for the funeral. The same was carried. The following committee was appointed: Dr. L. M. Crafts, Dr. J. W. McDonald, and Dr. W. A. Jones.

C. H. BRADLEY, M. D., Secretary.

THE STEARNS-BENTON SOCIETY

The Stearns-Benton Society had a very interesting meeting December 20th. Lobar pneumo-

nia was the general topic. A paper on the "Etiology and Pathology" was read by Dr. O. H. Wolner, with slides to demonstrate the germ that produces the disease. A paper on "Symptoms and Diagnosis and Differential Diagnosis" was read by Dr. G. A. Chilgren. A paper on "Prognosis and Treatment," by E. J. Lewis, and one on "Complications and Sequelæ," by Dr. M. J. Kern followed. A thorough and live, up-to-date discussion followed each paper.

The next meeting will be held at Sauk Center, on January 17th. The program will be "Malpractice Suits and the Physicians' and Surgeons' Responsibility;" "Examination of Malignant Growths—Danger in Too Much Manipulation;" "Common Defects of Eyes in Children and Their Detection;" "Eye Strain as Treated by the General Practitioner."

J. C. BOEHM, M. D., Secretary.

MINNESOTA ACADEMY OF MEDICINE

A regular meeting of the Academy was held at the Minnesota Club, St. Paul, on Wednesday evening, January 2d. Dinner was served at 7:20 o'clock. The meeting was called to order at 8:45. The president, Dr. Beard, was in the chair. There were 28 members and one guest present.

Dr. W. R. Ramsey presented two specimens of stenosis of the pylorus in babies, one 17 days old at the time of death, and the other two and a half months.

Dr. Christison and Dr. Rothrock of St. Paul, and Dr. Sedgwick and Dr. Beard of Minneapolis, also Dr. L. B. Wilson of Rochester, discussed the specimens, and the general subject of stenosis of the pylorus in infants. The two views, namely, that of the true hyperplasia of the musculature of the part, and that of a spasm of the pylorus, were advanced.

Dr. J. Frank Corbett, of Minneapolis, then read his inaugural thesis, "Gastric Ulcer, with Especial Reference to Malignant Change."

The discussion of Dr. Corbett's paper was opened by Dr. Louis B. Wilson, of Rochester. He reviewed the history of the subject, and referred to Drs. Osler's and McRea's series of cases in which they saw the interior of only two stomachs in the whole series. He thinks that carcinoma certainly does develop in the margin of gastric ulcer, as he has often seen it in cases examined at the time of operation. He stated that he had studied 100 cases in this way, and has found good plain evidence of it in 30 per cent, some evidence of it in 10 per cent, and none whatever in 60 per cent. Dr. J. L. Rothrock thought that an attempt to estimate the number of cases in which cancer develops on ulcer of the stomach must

necessarily, for the present, be futile. Some day we may have a sufficient number of cases so that an approximate estimate can be formed, but it must be done by those in surgery. Dr. Corbett, in closing, said that the exact relationship, unfortunately, cannot be known until we know more of the etiology of cancer. He emphasized the importance of frozen sections at operation, since by this method a diagnosis may be made in from 8 to 10 minutes, and a wait of this length need not be considered a serious objection.

Dr. J. I. Christison, of St. Paul, then read a paper upon "The Use of Lactone in the Preparation of Milk for Infant-Feeding."

Dr. Ramsey opened the discussion of Dr. Christison's paper. He said that he had been the first in the West to use buttermilk in infant-feeding, in 1902, and that he had made a report on forty cases a year and a half ago. He had used the German method of preparation. The idea in the use of buttermilk is that in churning the fat is removed. This is a decided advantage, and is the reason it agrees so well, as when, in this method of feeding, we add the cream, then is when our trouble begins.

Dr. Sedgwick of Minneapolis had been using buttermilk for some time with very gratifying results. He thought the name "*lactone*" as applied to this tablet was unfortunate because of the use of the term already in chemistry.

Dr. Beard also protested against the name, and against calling the milk prepared by this method buttermilk, for it is not in reality a fat-free milk, but a koumiss. Butter-free milk is the great essential in infant-feeding. He also entered a vigorous protest against the use of cane sugar, and insisted that milk sugar is the only scientific sugar for this purpose.

Dr. L. C. Bacon asked whether it were necessary to repeat the period of rest from food from time to time. He stated that in his experience he had found it so.

Dr. Christison stated that he had found that some babies certainly cannot take care of fats. In the buttermilk of commerce we still have a percentage of fat, say 1 and $\frac{1}{2}$ per cent, while in milk prepared by lactone we have 4 per cent. This percentage, of course, can be reduced by removing the cream from the milk beforehand.

As to sugar: practically cane sugar is best, for it relieves constipation, and agrees better generally than milk sugar. In answer to Dr. Bacon's question, he said yes, the period of rest from food should be repeated from time to time. Some are given a diet of whey for a time.

ARTHUR W. DUNNING, M. D., Secretary.

MISCELLANY

ANTITOXIN FURNISHED BY THE STATE BOARD OF HEALTH

The laws of Minnesota provide that every local board of health shall see that those sick with an "epidemic disease" (and this includes diphtheria) are provided with all necessary medical assistance, medicines, etc. The parties cared for are required to pay for such if able; otherwise the municipality (village or township) pays the necessary bills, recovering half of the amount expended from the county later.

Antitoxin is the most important therapeutic agent in the treatment of diphtheria; *in fact, it should be used in every case of diphtheria.*

Too often in the past, the people, officials, and, in some instances, I am sorry to say, physicians have neglected to use antitoxin because of its cost. This position under any circumstances is untenable, for human life is not to be measured in dollars and cents, but one or more doses of antitoxin, even at the highest market price, is as nothing compared with the old medicinal treatment of diphtheria.

The cost of antitoxin can no longer be an argument against its use in Minnesota. The law specifically requires that diphtheria cases be properly treated, and this is not possible without antitoxin. Local authorities must furnish antitoxin *free* if the people are too poor to pay for it, and this refers to the prophylactic, as well as the curative, use of this agent.

PLAN FOR SUPPLYING AND DISTRIBUTING ANTI-TOXIN

In order that boards of health may be able to secure reliable antitoxin on short notice, the State Board of Health has arranged to keep a fresh stock constantly on hand, and a supply will be sent at once to any board of health requesting it.

Arrangements have been made with the Lederle Antitoxin Laboratories of New York City, to keep the Board supplied with their concentrated antitoxin, which is the antitoxin now being used in New York City and many other places. A specially low price has been made to boards of health. This antitoxin comes in single packages put up in glass syringes ready for use, and will be kept in doses of 1,000, 2,000, and 3,000 units. The price, including the syringe, to boards of health, is—

1,000 units with syringe.....	\$.75
2,000 units with syringe.....	1.25
3,000 units with syringe.....	1.75

DOSAGE

Immunizing Dose—1,000 units.

Curative Dose—In light cases, not involving the larynx, if treatment is given on first day of disease, 2,000 units will generally be found sufficient; if treatment is not given until the second or third day of the disease, it would be better to give 3,000 units. If the disease is severe, and in all cases of diphtheritic laryngitis, at least 4,000 units should be administered, while 5,000 to 10,000 units are often indicated. If favorable results do not follow within eight hours, the initial dose should be repeated or doubled. With refined and concentrated antitoxin, giving a maximum of strength in a minimum bulk, it is safer to give large doses than to risk the danger of an insufficient dosage.

The arrangements for its distribution by the State Board of Health are as follows: Upon the request of any local board of health, or of its health officer, made to the Secretary of the State Board of Health, he will at once send by mail or express, prepaid, the number of packages ordered, in the doses indicated. A statement will be sent to the person who orders the antitoxin, and a duplicate statement will also be sent to the producer. The latter will collect the amount due for the antitoxin from the local board of health. The State Board of Health will not receive any money, and is simply acting as a distributing agent for the purpose of saving time.

Antitoxin will not be furnished to physicians except upon the order of the local board of health.

It may happen that an outbreak of diphtheria will occur where many persons have been slightly exposed, as in school, for example. The local board of health may wish to have a small supply of antitoxin on hand for such an emergency, but may not be called upon to make use of it. To meet such conditions a board of health may order as many as twenty immunizing doses and ten curative doses, and have the privilege of returning to the State Board of Health within thirty days any unopened packages, for which they will receive credit. The only extra expense, where this is done, will be the postage or expressage upon the packages returned.

In ordering antitoxin care should be taken to explicitly state the number of packages wanted and of what dosage. The post-office (or express office, if a large quantity is ordered) to which it is to be sent, must also be given. When antitoxin is received it should be kept in an ice-chest, where possible, until needed.

It should be remembered that the success of antitoxin in the treatment of diphtheria depends

largely upon its early use in sufficiently large doses.

Each package of antitoxin will contain a blank for a report of the case in which it is used. Physicians who receive antitoxin from boards of health will be required to fill out this blank and return it to the State Board of Health. They must also certify that the antitoxin was used for a person of indigent circumstances.

Local boards of health are urged to make use of their authority and this arrangement for supplying antitoxin for the prevention and cure of diphtheria. Physicians are frequently called to cases of diphtheria in poor families where the use of antitoxin would mean the saving of life, but where the family is too poor to purchase it. The physician should not be expected to furnish antitoxin at his own expense. Antitoxin is used to lessen the number of deaths from diphtheria and also to protect those who are exposed from having the disease. This is a public health measure for which the public can well afford to pay.

H. M. BRACKEN, M. D.

By order of the Board,

Secretary.

January 9, 1907.

NEWS ITEMS

Dr. F. L. Lexa has moved from New Prague to Lonsdale.

Dr. J. G. Johns, of Bowdon, N. D., will locate on the coast.

Dr. I. Taustrom has moved from Center City to Lindstrom.

Dr. E. R. Jellison has moved from Taylor's Falls to Wolverton.

Fifteen candidates took the January examinations in North Dakota.

Dr. H. W. Hendrickson, of Montevideo will move to Davenport, Iowa.

Dr. W. W. King, of Milton, N. D., is in Chicago doing post-graduate work.

Dr. L. B. Remick, of Triumph, will go to the Pacific Coast for a new location.

Dr. James Semple, of Langdon, N. D., is doing post-graduate work in Chicago.

Dr. Harmon, of Windom, paid a fine of \$50 last month for practicing without a license.

Dr. F. J. Campbell, of Fargo, who has been seriously sick for some time, is rapidly improving.

The Commercial Club of Mandan, N. D., is still interested in a hospital project for that city.

Dr. George Tupper, of Thief River Falls, will go to Europe for an extended course of study.

The new Coleraine Hospital at Bovey will be very complete, and its furnishings unusually so.

Dr. S. E. Brice, of Lewiston, Mont., was married last month to Miss Grace Million, of Seattle, Wash.

Dr. W. W. King, of Cogswell, N. D., will take a special course in a Chicago post-graduate school.

Dr. Henry Hutchinson, of St. Paul, has been re-appointed a member of the State Board of Health.

Dr. W. J. Corrigan has opened a private hospital at Richville. A new building was erected for the purpose.

Dr. Alexander McL. Watson, of Royalton, was married last month to Miss Mabel Greene, of London, Ontario.

Dr. Joseph Vollmer, who has practiced in Hutchinson for over twenty years, died at that place last month.

Dr. A. A. Westeen, of Grand Forks, N. D., has gone to Europe, taking his family, for a year's special study.

Dr. E. M. Larson, of Storey, Iowa, has moved to Minot, N. D., and formed a partnership with Dr. John Ekrem, of the latter place.

Dr. W. J. Mayo has accepted the position on the Board of Regents of the State University, tendered him by Governor Johnson.

Dr. T. M. Kittleson, of Fergus Falls, was married last month to Miss Esther Cole, the daughter of Dr. A. B. Cole, of the same place.

Dr. L. S. Platon, of Valley City, N. D., has taken into partnership Dr. MacDonald, of Courtenay, N. D., and Dr. Voss, of Wisconsin.

Dr. E. J. Miller, who practiced at Sioux Falls, Marion, and other points in South Dakota for a number of years, recently died at Sycamore, Ill.

Drs. C. A. and F. P. Boyd, of Northfield, have bought the practice of Dr. William Corpron, of Redwood Falls. Dr. Corpron will go West to locate.

Dr. L. B. Dochterman, of Williston, N. D., has taken into partnership Dr. Morten Jessen, an eye and ear specialist who recently came from Norway.

FOR SALE

One static machine with x-ray attachment, by hand or motor power. Will sell cheap. Address P. O. Box 366, St. Cloud, Minn.

FOR SALE

A six-bottle Nebulizer complete with floor-pump. New and in perfect condition. Cost \$100. Will exchange for new or nearly new typewriter of standard make. Address, Dr. Victor I. Miller, Westbrook, Minn.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF NOVEMBER, 1906

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF NOVEMBER, 1906

STATE INSTITUTIONS.	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Croup	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer (?)	Puerperal Septicemia
Fergus Falls, Hospital for Insane.....	8	1	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Rochester, Hospital for Insane.....	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Peter, Hospital for Insane.....	10	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anoka, Asylum.....	0	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..
Hastings, Asylum.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Deaf.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Blind.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Feeble Minded.....	3	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Owatonna, School for Dependents.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stillwater, State Prison.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Cloud, State Reformatory.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Red Wing, State Training School.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Minneapolis, Soldiers' Home.....	5	1	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Totals.....	37	4	..	3	..	..	..	..	..	..	..	..	3	..	2	..

REPORTED FROM 71 CITIES HAVING A POPULATION OF 1,500 OR UPWARDS

FOR THE OF MONTH NOVEMBER, 1906

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Croup	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer (?)	Puerperal Septicemia
Albert Lea.....	4,500	5,657	2													1		
Anoka.....	3,769	4,053	2															
Austin.....	5,474	6,489	2															
Barnesville.....	1,326	1,566	*			1												
Bemidji.....	2,183	3,800	*															
Blue Earth.....	2,900	2,364	2	1														
Brainerd.....	7,524	8,134	9			2									2	1		
Chaska.....	2,165	2,085	*															
Chatfield.....	1,426	1,300	*															
Cloquet.....	3,074	6,117	*	1														
Crookston.....	5,359	6,794	7															
Detroit.....	2,060	2,149	0															
Duluth.....	52,968	64,942	79	6	1	11	3						1		2	4	1	
E. Grand Forks.....	2,077	2,489	6	2	1													
Ely.....	3,712	4,045	16			9					2							
Eveleth.....	2,752	5,332	11			2									3	1	1	
Faribault.....	7,868	8,279	6	1		1												
Fairmont.....	3,440	2,955	2												1			
Fergus Falls.....	6,072	6,692	*															
Granite Falls.....	1,214	1,340	*															
Hastings.....	3,811	3,810	2															
Hutchinson.....	2,495	2,489	2	1	1													
Jordan.....	1,270	1,311	0															
Lake City.....	2,744	2,877	1															
Litchfield.....	2,280	2,415	1															
Little Falls.....	5,774	5,856	7	1				1										
Luverne.....	2,223	2,272	1															
Le Sueur.....	1,937	1,842	*															
Madison.....	1,336	1,604	1															
Mankato.....	10,559	10,996	13			3								1		1		
Marshall.....	2,088	2,243	*															
Melrose.....	1,768	2,151	2				1											
Minneapolis.....	202,718	261,974	226	22	4	27	10	12					1	1	8	5	13	
Montgomery.....	979	1,281	1															
Montevideo.....	2,146	2,595	5			1				1								
Moorhead.....	3,730	4,794	8	2		2												
Morris.....	1,934	2,003	*			2												
New Prague.....	1,228	1,419	1															
New Ulm.....	5,403	5,720	4		1	1												
Northfield.....	3,210	3,438	3															
Ortonville.....	1,247	1,612	*															
Owatonna.....	5,561	5,651	3	1			1											
Pipestone.....	2,536	2,885	2			1												
Red Lake Falls.....	1,885	1,797	0															
Red Wing.....	7,525	8,149	4															1
Redwood Falls.....	1,661	1,806	1															
Rochester.....	6,843	7,233	2	1														
Rushford.....	1,100	1,133	2												1			
St. Charles.....	1,304	1,238	*															
St. Cloud.....	8,663	9,422	7												2		1	
St. James.....	2,607	2,320	1															
St. Paul.....	163,632	197,323	170	16	6	20	3	6					1		8	1	6	
St. Peter.....	4,302	4,514	0															
Sauk Centre.....	2,220	2,463	1															
Shakopee.....	2,046	2,069	2	1														
Sleepy Eye.....	2,046	2,312	0															
So. St. Paul.....	2,322	3,458	1															
Stillwater.....	12,318	12,435	14	3	1	1									1			
Thief River Falls.....	1,819	3,502	1			1												
Tower.....	1,366	1,340	*															
Tracy.....	1,911	2,015	3															
Virginia.....	2,962	6,056	*															
Wabasha.....	2,528	2,619	*															
Warren.....	1,276	1,640	0															
Waseca.....	3,103	2,838	*															
Waterville.....	1,260	1,383	0															
West St. Paul.....	1,830	2,100	1															
Willmar.....	3,409	4,040	4				1											
Windom.....	1,944	1,884	2			1												
Winona.....	19,714	20,334	20	1	2	4	2	1								1	2	
Worthington.....	2,386	2,276	0															

*No report received

REPORTED FROM 66 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF NOVEMBER, 1906

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Croup	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer (?)	Puerperal Septicemia
Ada.....	1,253	1,515	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Adrian.....	1,258	1,184	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aitkin.....	1,719	1,896	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Akeley.....		1,636	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Alexandria.....	2,681	3,051	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Appleton.....	1,184	1,321	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Belle Plaine.....	1,121	1,301	0	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Benson.....	1,525	1,766	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Breckenridge.....	1,282	1,850	6	..	..	1	..	..	..	..	..	..	..	..	2	..	..	..
Buffalo.....	1,040	1,124	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Caledonia.....	1,175	1,405	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Canby.....	1,100	1,505	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cannon Falls.....	1,239	1,460	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cass Lake.....	546	1,062	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chisholm.....		4,231	12	1	..	3	1	2	..	..	..	..	..	..	1	..	..	..
Dawson.....	962	1,056	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delano.....	967	1,023	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fosston.....	864	1,000	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Frazee.....	1,000	1,146	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glencoe.....	1,780	1,805	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glenwood.....	1,116	1,718	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Graceville.....	856	1,032	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grand Rapids.....	1,428	2,055	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hallock.....	805	1,014	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hibbing.....	2,481	6,566	24	1	..	3	..	1	..	..	..	1	..	..	10	1	..	..
Jackson.....	1,756	1,776	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Janesville.....	1,254	1,205	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kasson.....	1,112	1,049	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kenyon.....	1,202	1,252	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Crystal.....	1,215	1,231	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lanesboro.....	1,102	1,041	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Long Prairie.....	1,385	1,256	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madelia.....	1,272	1,290	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Milaca.....	1,204	1,319	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mountain Lake.....	959	1,063	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Mankato.....	939	1,129	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North St. Paul.....	1,110	1,400	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Olivia.....	970	1,019	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Osakis.....	917	1,056	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Park Rapids.....	1,313	1,719	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pelican Rapids.....	1,033	1,095	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Perham.....	1,182	1,366	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pine City.....	993	1,092	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plainview.....	1,038	1,140	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Preston.....	1,278	1,320	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Princeton.....	1,319	1,704	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Renville.....	1,075	1,229	0	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Rush City.....	987	1,041	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rushford.....	1,062	1,040	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Louis Park.....	1,325	1,491	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sandstone.....	1,189	1,589	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sauk Rapids.....	1,391	1,552	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Scanlon.....		1,122	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
South Stillwater.....	1,422	1,572	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Springfield.....	1,511	1,546	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Spring Valley.....	1,770	1,573	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Staples.....	1,504	2,163	2	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..
Two Harbors.....	3,278	4,402	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wadena.....	1,520	1,868	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wells.....	2,017	1,814	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Minneapolis.....	2,250	2,530	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wheaton.....	1,132	1,346	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
White Bear Lake.....	1,288	1,724	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winebago City.....	1,816	1,553	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winthrop.....	813	1,031	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Zumbrota.....	1,119	1,129	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
State Institutions.....			37	4	..	3	..	..	..	..	..	..	..	..	3	..	2	..
Other parts of State.....	1,012,328	1,085,886	314	34	3	22	4	5	2	2	..	..	7	2	13	6	20	1
Total for State.....	1,751,395	1,979,658	1084	103	21	124	26	28	3	3	3	1	12	5	66	21	50	1

Still births and premature births, 53 (not included in above totals).

*No report received.

ANNUAL REPORT OF THE MINNESOTA STATE BOARD OF HEALTH TO THE STATE LEGISLATURE

To the Minnesota Legislature—

Gentlemen: In accordance with the laws of 1905, which direct that the Minnesota State Board of Health "shall report its doings and discoveries to the Legislature at each regular session thereof, with such information and recommendations as it shall deem useful," said Board has instructed me to submit the following:

The usual responsibilities of the Board in dealing with the so-called epidemic diseases have been met, and new duties are constantly presenting themselves, as shown below.

1. **Tuberculosis.**—It is now a well recognized fact that pulmonary tuberculosis, or consumption, is a preventable disease. It therefore becomes the duty of this Board to interest itself in the care and control of this disease in the home and in institutions.

Tuberculosis kills annually in Minnesota about 2,000 people. This represents one-tenth of all the deaths, and more than all the deaths resulting from the other contagious diseases. At the same time there are probably from 8,000 to 10,000 living tuberculous individuals in Minnesota demanding treatment, either in their homes or in institutions. It is impossible to care for such a great army of patients in institutions. We must therefore provide for them in the home. To do this, we must consider the mild cases that may recover if properly cared for, and the advanced cases that will die of this disease, and who will act as centers of infection during their long illness if not properly cared for. This Board has issued literature looking to the education of the public in matters pertaining to both of these points. But more than literature is needed. It is important that county or district nurses should be provided to visit the homes of the tuberculous, in order that we may insure the proper care of these unfortunates.

Valuing a human life at \$5,000, Minnesota loses \$10,000,000 annually through the deaths from this one disease. At the same time at least \$5,000,000 more are spent annually caring for tuberculous patients.

There is no other disease where so large a proportion of the patients eventually become a public charge. It is important therefore from the financial, as well as from the humane, standpoint, that provision be made for the proper investigation, care, and control of this

disease. It is impossible for the State Board of Health to carry on this work without the liberal support of the Legislature.

In addition to the work of the State in dealing with this problem should be that of the county, through the county boards of health, county nurses, and county sanatoria.

Carefully compiled records, extending over a period of 17 years, show among the incipient cases recoveries amounting to 66 per cent, while but 28 per cent of the advanced cases, and 2.5 per cent of the far-advanced cases, can be classed as cured. These facts are strong arguments for the early recognition and proper care of this disease. At the same time they are strong arguments for the proper care of the advanced cases, in order that we may prevent the further spread of infection.

2. **Typhoid Fever.**—This is one of the preventable diseases that follows in the wake of civilization. It is a filth disease, and its continued presence in any community is a disgrace. The State Board of Health is doing its utmost, under present conditions, by urging municipalities to so provide for the care of the excreta of their inhabitants as to bring this disease under control. To bring this about, sewerage systems and water supplies, as well as the proper policing of out-houses, must receive careful attention.

Typhoid fever has prevailed to quite an extent in epidemic form throughout the State of Minnesota during the past two years. The burden of caring for this disease is not confined to the careless communities in which it prevails, but is thrust upon innocent or protected localities. This is shown by the single cases occurring in uninfected communities, said cases being imported from infected centers. Probably the most notable of the municipalities bearing such undeserved burden in this State is Duluth, which city has an excellent water supply and but few typhoid fever cases of its own. However, Duluth is constantly caring for innumerable typhoid fever cases imported from the Iron Range, and the lumber and railroad camps nearby.

The lack of proper sanitary methods in some of the municipalities is evidenced by the typhoid fever records of Hibbing, Chisholm, Breckenridge, Crookston, etc., during the past few years.

Too often lumber and railroad camps are located without any regard as to the possible

pollution of the drinking water supplied for the men employed; in fact, it is a common thing to find the drinking water for these camps taken from a source that is very apt to be infected.

All sources of typhoid fever infection should be removed, and this can be done if the various sanitary authorities—municipal, county, and state—are properly supported in their efforts. It is the duty of the State to protect its working men from this disease.

3. **Smallpox.**—This disease has prevailed to an annoying extent throughout the state during the past ten years. Every means possible under the laws, as they now exist, have been used to control it, but without avail. It has caused immeasurable financial loss, as well as much bodily suffering and personal loss.

This is one of the most easily controlled of all communicable diseases; yet it has not been controlled. Why? Because of the opposition of certain individuals to the use of the one available means of control, namely, vaccination.

Medical men have borne the brunt of criticism for centuries in matters pertaining to the prevention of smallpox. In the days of Lady Montague the medical profession was charged with being too selfish to use the then-known means of preventing this dread disease, thus cutting off a considerable proportion of their income. This was in the days of inoculation. Now, when physicians argue in favor of vaccination,—a preventive measure far superior to that of inoculation,—the anti-vaccinationists charge them with being selfish and vaccinating for financial gain. This argument is most absurd, for the money received by physicians for vaccinating where public vaccinators are not provided is as nothing compared with the fees which might be received for attending smallpox among the unprotected. It must be recognized that when physicians argue for vaccination they are working directly against all selfish interests.

The evidence in support of the protective power of vaccination is beyond dispute. In addition to this, it is a fact that vaccination is the only means by which smallpox can be controlled. It therefore becomes a duty for the Legislature to provide proper compulsory vaccination laws, and thus exclude smallpox from the State. If no such laws are passed the responsibility for the continuance of smallpox in Minnesota must rest upon her people, and not upon the medical profession or sanitarians.

4. **Rabies.**—This is a disease requiring special attention. It is very general at the pres-

ent time in Minnesota. In a recent report on rabies in twenty-three states, Minnesota stood second in the list for the number of bitten human beings during the past year.

The Minnesota State Board of Health has knowledge of 100 human beings who were bitten by rabid animals in this State during 1906. Fortunately, there is now a means of so treating this disease as to reduce its mortality to a minimum. However, a great financial burden was thrown upon individuals, municipalities, and counties in caring for these 100 cases in this State. Sixty-nine of these cases went either to Chicago or Ann Arbor for treatment at a Pasteur institute. The other 31 should have gone for similar treatment. A conservative estimate would place the loss to the State for the 69 treated individuals at \$14,000. To properly care for human beings who have been bitten by rabid animals, Minnesota should have a Pasteur institute. This could be operated at a cost not to exceed \$5,000 per annum. Michigan has such an institute, at which all residents of that state needing treatment are cared for free of charge, while non-residents of the state must pay \$100 each for treatment.

The number of domestic animals that have died from this disease during 1906 cannot be given with accuracy, but it was large, and entailed a great financial loss.

This disease is spread chiefly by the dog. It has been said that the dog is the poor man's friend; but this is not true when a dog becomes rabid, and inflicts financial loss upon the poor man by destroying his live-stock and injuring his family. The poor man cannot afford to have his family, his horses, and his cattle die of rabies.

There should be a dog-license law, and a muzzling law to be used as necessary, in Minnesota. It would then be possible to quickly stamp out this disease. Such has been the history of rabies in European countries. The money coming from license fees could be used to defray the expenses incurred in the care of human beings bitten by rabid animals, and the financial losses resulting from this disease among domestic animals. Part of the money secured in this way could be used in maintaining a Pasteur institute. Rabies will continue in this State until the necessary laws for the eradication of this disease are passed and enforced.

The action of the Legislature of 1903 in appointing an independent board to have charge of infectious diseases of animals has made the control of rabies most difficult, for there is a division of authority, and with this division comes increased difficulties in suppressing the

disease. So long as rabies prevails only among animals the responsibility of looking after it rests upon the Live Stock Sanitary Board, but as soon as a human being is bitten the responsibility of investigation is transferred to the State Board of Health. Neither board can be criticized for this unfortunate condition of affairs, for both boards are doing the best they can. The present Legislature, however, should take steps to place this disease entirely under the control of the State and local boards of health.

5. **Vital Statistics.**—Minnesota is badly in need of a burial-permit law. Until such a law is passed the State will not be recognized by the Federal Census Bureau as a "registration state."

Such a law is necessary in order to secure a complete record of all the deaths throughout the State. A complete record of all deaths is important; (1) in order to meet the necessary demands made upon a state by the courts in the settlement of estates, life-insurance claims, etc.; (2) in order to protect the State against concealed cases of crime. A burial-permit law can be so framed as not to be burdensome to any one, and at the same time be a great boon to many.

The Federal Census Bureau is urging the passage of a burial-permit law in all non-registration states. It is to be hoped that the Minnesota Legislature will recognize the importance of such a law, and take action accordingly during the present session.

6. **Meat Inspection.**—The recent action of the Federal Government in passing more stringent regulations pertaining to meat inspection for *interstate and foreign trade* makes state inspection an absolute necessity if our own citizens are to be protected from diseased and poor meats in the home markets. The strict federal inspection laws will tend to shut the diseased animals out of the great packing-houses, thus forcing them into the local markets where there is no inspection.

But a very small proportion of the meat consumed in Minnesota has been killed under federal inspection. In the smaller cities and villages, practically all meats consumed are from animals killed without any inspection; and even in the larger cities there is no practical method by which a meat consumer can assure himself that he is using only federal inspected meats.

Federal meat inspection is of commercial value to the farmer and the exporter, for it insures the good quality of the meat sold to foreign countries, and thus secures a better market. But it is of little sanitary value to

the home consumer of meats; that is, to the people of our own State. The Legislature should see to it that our own citizens are as well protected from diseased meats as are the people of foreign countries.

If one questions the need of meat inspection in Minnesota for the benefit of the local consumer he has only to visit the ordinary country slaughter-house during the summer and note the unsanitary conditions of the place from which the greater part of our local meats come. These conditions, together with the exclusion of diseased animals from the packing-houses under federal inspection, make state provision for meat inspection an absolute necessity.

7. **Pure Food.**—The recent agitation along these lines has fully demonstrated the need of state laws in matters pertaining to the sale of food, etc. It is to be hoped that this subject will receive full consideration by the present Legislature.

8. **Hotel Inspection.**—The revised laws of 1905 give the Minnesota State Board of Health authority, so far as relates to the construction and equipment of "lodging houses and other public sleeping places kept for gain," to regulate the same. This, of course, covers hotels, boarding - houses, lodging - houses, lumber camps, etc. The authority should go still further and cover the sanitary conditions in and about such buildings at all times. It may be said that local health officials have such authority at the present time. This is true, but such local authority cannot be made effective without the support of specific laws pertaining to such matters, and State supervision. The food supplies of hotels, boarding-houses, restaurants, public institutions, etc., have as great sanitary importance as have the construction and equipment of such buildings.

9. **The Control of Water Supplies and Sewerage Systems.**—The protection of the waters of the State assumes greater proportions each year. With a growing population, the dangers from stream pollution are constantly on the increase. It is not enough that the State Board of Health has control of waters used for domestic purposes. It should have control of all water supplies. The farmer is interested in the quality of water available for his stock. A municipality may create a nuisance in the disposal of its sewage without of necessity impairing a "water supply for domestic use." The State Boards of Health in certain progressive states now have authority to pass upon the plans of all water and sewerage systems before they are installed. This au-

thority should be given to the Minnesota State Board of Health, and it should be provided with funds with which to secure the necessary engineering assistance to enable it to do this work thoroughly and wisely.

10. **Sanitary Engineering.**—Although engineering problems are constantly presented to the Board no provision has been made by previous legislatures for the employment of expert sanitary engineers. It is impossible for the Board to intelligently pass upon sanitary engineering problems without expert advisers. The State has placed responsibilities upon the Board of Health relating to engineering problems that cannot properly be cared for under present conditions. It is expected that the present Legislature will follow the example set by other states, and provide funds for the employment of sanitary engineers.

11. **Sanitary Inspectors.**—If the Board is to perform its duties properly it should have in its employ expert medical inspectors to investigate sanitary conditions throughout the State, and advise as to what should be done in order to correct existing evils. One trained inspector should be giving his entire attention to tuberculosis and the means to be used for its control. Another trained inspector should be giving his entire time to investigations relating to typhoid fever. As already shown, both tuberculosis and typhoid fever exist to an alarming degree throughout the State. This important work of inspection cannot be carried out unless the necessary funds are provided. Every large city has its corps of medical inspectors. The State's work along these lines should be as important as that of such cities.

12. **Finances.**—While Minnesota has been growing rapidly and the sanitary responsibilities increasing in proportion, little has been done to increase the efficiency of its sanitary board. The appropriations for the general work of the Minnesota State Board of Health are the same now as they were twenty years ago, and the special appropriations have been insignificant. It would seem that the protection of human lives was deserving of more consideration. The total appropriations for the routine work of the Board, including its laboratory appropriations, are but \$21,000. The cities of St. Paul and Minneapolis each spend far more than this annually in dealing with sanitary problems, and both of these cities cover small areas as compared with the State at large.

Massachusetts, a state with a population about the same as that of Minnesota, but with a much smaller area, spends through its State Board of Health annually \$12,500 for the in-

spection of foods, \$34,000 on water problems, and \$7,500 on sewage problems.

Pennsylvania, in 1904, realizing the importance of sanitary matters, increased the appropriations from almost nothing to \$175,000 per annum.

Surely the Minnesota Legislature should see the wisdom of protecting the people of this State. To do this, it must keep in the front ranks in matters pertaining to sanitation.

THE LABORATORIES

These are an indispensable part of the State Board of Health. The first one began operations in 1896 without having received any special appropriation, and hence is dependent upon the general fund for its support. In 1899 the Legislature appropriated \$7,500 per annum for the laboratory work of the Board. This amount was increased in 1901 to \$10,000 per annum. Although the laboratory work has steadily increased, the appropriation for this work is the same now as it was six years ago.

Laboratory work may be outlined in part as follows:

1. **Diphtheria.**—Laboratory examinations are now recognized as a necessity in dealing with this disease, as the quarantine of the same is governed by the presence of the specific germ causing the disease. During 1906, about 8,000 diphtheria-culture examinations were made for 491 physicians in 271 localities, from 2,332 patients. This work will undoubtedly increase during the coming years, and an additional trained assistant will be needed.

2. **Typhoid fever.**—There were 1,352 examinations of blood made during 1906 for 255 physicians in 110 localities, from 920 individuals suffering from, or suspected of having, typhoid fever.

Typhoid fever investigations were made for Two Harbors, Breckenridge, Rose Creek, Bovey, Colerain, Buhl, Akeley, Eveleth, Hibbing, Chisholm, Duluth, etc.

3. **Rabies.**—Investigations of 39 different outbreaks have been made during the year which have included 35 dogs, 2 cats, one horse, and one cow. In addition to this there is a record of 7 horses, 5 cattle, 3 swine, 14 sheep, 127 dogs, and 2 cats, all of which developed rabies. There were also 196 dogs which were destroyed on suspicion. This latter record is far from complete since it does not include full particulars of St. Paul or Minneapolis cases, or of the cases investigated by the State Live Stock Sanitary Board.

One hundred human beings were bitten by

rabid animals, and of these 69 were sent out of the State for Pasteur treatment.

4. **Glanders.**—One case of human glanders, in which a positive diagnosis was made, has been under observation.

5. **Water Investigations.**—This work has included the investigation of waters from Two Harbors, Breckenridge, Buhl, Akeley, Anoka, Aurora, Chisholm, Cloquet, White Bear Lake, Bovey, Colerain, Holman, Moose Lake, Duluth, Owatonna, Proctor, Roscoe, Spicer, Eveleth, Hibbing, the University of Minnesota water supply, etc. In connection with this work there have been 92 chemical examinations and 364 bacteriological examinations. The chemical examinations have been small in number owing to the fact that the laboratory has been without a chemist for the greater part of the year.

6. **Sewage Disposal.**—In many instances the question of sewage disposal has been under consideration in connection with the water investigations already referred to.

A problem of special importance in this State is the study of creamery wastes and their proper management and disposal. Nothing is known concerning this subject at present, and it seems to be in a class by itself.

7. **Milk Examinations.**—The State Board of Health, following the example of Boston and many other places, has adopted a bacterial standard of purity for milk. A survey of the conditions governing milk supplies of this State was carried out during one summer; but it had to be abandoned for lack of funds to provide the necessary trained assistance and traveling expenses. This is a most important work, and should be continued, as it was before, in collaboration with the State Dairy and Food Department.

8. **Embalming Fluids.**—Espécial attention has been given to the perfection of an embalming fluid, the work being done in conjunction with the State Funeral Directors' Association and Dean Frankforter of the University School of Chemistry. A report of this work was presented to the National Funeral Directors' Association at its annual meeting, held in Chicago, Sept. 4th, 1906. This Association has increased its appropriation for further work along this line. The importance of this work is generally recognized by state and federal health authorities, by the traffic departments of the different railroads, and by the state and national funeral directors' associations, since it has for its object the safeguarding of the public from possible infection due to shipment

of the dead. In order to do this work properly, one or more trained men should give to it their entire time until the methods and materials have been properly worked out.

9. **Research Work.**—If the Laboratory of the Minnesota State Board of Health can be said to have any reputation at all, this has been acquired by the application of scientific methods to executive problems, and by other researches which were formerly possible of accomplishment. The growth of the strictly practical or executive phases of the work has interfered to such an extent with the time of the members of the staff that strictly scientific research has had to be slighted.

10. **Branch Laboratories.**—A partnership was effected whereby the State Board of Health, in collaboration with the Duluth City Board of Health, St. Mary's Hospital, and St. Louis County, has maintained a branch laboratory in Duluth. This laboratory should be enlarged, and put on a more solid footing. It would appear to be economy for the State to furnish the main, if not the total, support of the same, in order to establish a permanency of policy and maintain the proper relationship to the Board.

As this branch laboratory was established in order to save from 24 to 48 hours of the time taken to furnish laboratory reports as the basis for the detection or suppression of epidemic diseases, similar branch laboratories should be established in other portions of the State for the same reason. This cannot be done unless funds are appropriated for this purpose.

11. **Future Wants.**—(a) Under the present regulations of the Board, gratuitous examinations of sputum in cases of suspected tuberculosis are to be made throughout the State. This work must be done. It will require an additional trained assistant in the laboratory.

(b) Through an arrangement with the U. S. Geological Survey, full data concerning the surface waters of the various watersheds throughout the state have been compiled, and a report will be issued by the Washington authorities within a few weeks. This includes accurate data concerning the quality of the water based on bacteriological and chemical examinations made at different seasons and under varying conditions, whereby it is possible to make comparisons of one locality with another. The U. S. Geological Survey, having acquired all the data which it needed in relation to the commercial and geological features, has now withdrawn; but this work should

be kept up to date and extended by the State.

(c) Laboratory examinations will be required particularly in relation to experimental studies as to the best methods of purification to be used with the waste products found in the sewage in different localities throughout the State. It can easily be seen that the sewage will vary in different localities according to the density of population, the amount and character of the water used, the presence of particular kinds of industries, etc. It is apparent, therefore, that much experimental work involving chemical and bacteriological examinations must be done during the experimental stage in various localities, and later in testing the efficiency of plants which have

been installed. The water and sewage work will require the complete time and attention of at least two trained experts, and a certain amount of unskilled assistance. There is only one assistant available at the present time.

If the efficiency of the work of the State Board of Health is to be kept up to the proper standing, all of the subjects enumerated in this report must receive the careful consideration of the present Legislature.

Respectfully submitted,

H. M. BRACKEN, M. D.,

Secretary and Executive Officer.

By order of the Board, January 8, 1907.

A NEW MINNEAPOLIS HOSPITAL DEVOTED EXCLUSIVELY TO SURGICAL CASES



Dr. George G. Eitel is building in Minneapolis a hospital building to be devoted exclusively to surgical cases. Accompanied by his architect, Mr. Lowell A. Lamoreaux, the architect of the Minneapolis City Hospital and of many of our largest residential and commercial buildings, Dr. Eitel visited the leading hospitals of the Northwest and of Chicago and eastern cities, and consulted with surgeons of wide experience in hospital construction. The result, it is believed, will be a building that will possess great interest to the profession. We take pleasure in giving our readers a view and description of this new hospital, with the plans of the top floor containing the operating-rooms. Work has already begun upon the building, which will be ready for occupancy by September 1st.

The building is located on a high knoll adjacent to the Loring Park, and will have the advantage of overlooking the lake and foliage of the park. It is probably the most favorably located hospital in Minneapolis, as far as beauty of surroundings is concerned and distance away from street-cars and other noise.

The building will be absolutely fire-proof, it being the present intention to make even the doors and window frames of metal. The outside walls will be built with a hollow space to insure absolute quietness, warmth, and dryness on the interior. The exterior will be of white stone or enameled white brick.

The basement will have full-sized windows entirely above ground making it as light, dry, and sanitary as any other floor of the building. There is a sub-base-

ment for the heating plant and the running of steam and ventilating pipes below the first floor. The basement is designed for the nurses' home where space for twenty-four nurses will be arranged, with an entrance on Fourteenth Street. There will be, also, in connection with the nurses' home, a large library and a reading and rest room.

On entering the main building, directly in front are the stairway and the elevator. This elevator is enclosed in a room by itself, about 15x18 feet in size, and runs from the basement to the top floor entirely enclosed in this space, which will also contain the stairway. This gives perfect quietness throughout the hospital on all floors, making it possible to run the elevator without its being heard in other parts of the building. There is a second elevator provided for freight and ice, connecting a rear entrance with the kitchens, refrigerators, etc., on the top floor.

The second, third, and fourth floors are assigned to rooms for patients. Every room in the building has separate closets, and many of them are provided with private bath-rooms, as well as sitting-rooms in connection with the sick-room. The hospital will be so arranged that patients can procure a suite of rooms when so desired. Several very elaborate suites will be arranged for this purpose.

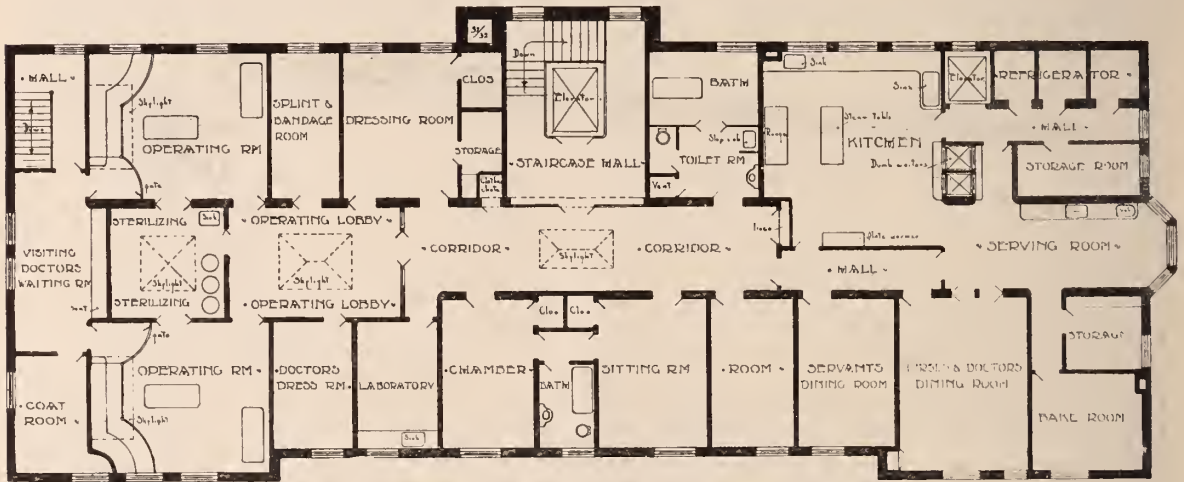
The construction of the hospital will be hollow-tile floors and hollow-tile partitions, the material being

an exhaust ventilator connecting with a pipe which has a discharge out of doors.

The top floor of the building is divided into three separate parts. One portion is devoted to kitchen, refrigerator, store-rooms, skullery, and serving, baking, and dining-rooms for nurses and physicians and convalescent patients.

At the other end of the building are located the operating-rooms, which will be two in number, separated entirely from the corridors of the building. To reach the operating-room, one enters a large lobby, enlarged to make room for stretchers not in use, as well as to furnish a convenient place for arranging patients previous to and after operations before taking them into the main portions of the hospital. This operating-lobby opens directly to a laboratory, doctor's dressing-room, two operating-rooms proper, and a sterilizing-room, splint-and-bandage-room, as well as a dressing-room where small operations or dressings can be made, and which is easily accessible to the sterilizing-room. This dressing-room may be used for a special eye and ear operating department, although this point has not been fully determined yet.

One of the leading features of this operating-room, and one which is perhaps the only one of the kind in the country, is the arrangement for the accommodation of visiting physicians and students. This hospital is so arranged that the physicians come up in a separate



Plans of the top floor, showing the operating-rooms

selected with the idea of conveying the least possible sound from one compartment to another. Tile floors will be laid throughout the corridors, toilet-rooms, bath-rooms, operating-rooms, and laboratories.

The heating plant will be a combination of direct-steam radiation, having a back-valve system attached, which gives a perfectly quiet operation of radiators. There will also be a separate system of heating located in the sub-basement, through which the outside air will be drawn down from the roof through heating coils, and distributed in the separate pipes to every compartment in the building. This will be done with a large fan run by a small separate steam-engine, giving perfect ventilation. All the air taken in will be passed through sprays of water before entering the heating coils, thus removing all soot and dust from the air. The supply to each compartment will be so calculated that the air of every room in the institution will be entirely changed every thirty minutes, thus insuring perfectly pure air for the patients, as well keeping the hospital entirely free from objectionable odors. Every room will have

stair-way to a doctor's waiting-room, which is directly adjacent to it, and a large coat-room where coats may be left before entering the operating-room as spectators. Robes will be provided for all visiting physicians, which can be put on in this coat-room.

Another special feature of this operating-room is that the amphitheatre is arranged directly in front and within three or four feet of the operating-table. The platform of the amphitheatre is raised above the floor, bringing the visiting physicians and students within plain sight of the operation. The sky-lights are so located that the light comes directly over the visiting physicians' heads and is not obstructed at all, the sky-light being arranged just high enough so that the light passes directly to the operating-table where no shadows will be cast to interfere with an operation.

A patient's balcony is located on each floor, and the roof is planned for a roof-garden and sun-room for patients, arrangements being made for stretching awnings over the same. The elevator will run to the roof.

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THE SIGNIFICANCE OF DELIRIUM IN TYPHOID FEVER*

By H. A. TOMLINSON, M. D.

ST. PETER, MINN.

The question naturally arises, in the consideration of this subject, Why does the delirium present in typhoid fever differ in degree and character in different cases? Delirium has been considered so much a matter of course in this disease that its significance is not appreciated. While it is true that the fact of the presence of delirium is not in itself important, the degree and nature of the mental disturbance is very significant, not only with regard to the susceptibility of the nervous system, and the extent to which it is involved, but also of the degree of intoxication and the functional capacity of the eliminative organs.

In typhoid fever, delirium is usually only an incident, and not very marked. But occasionally it is prominent, and the most conspicuous element in the clinical picture. Usually the patient is only dull, and during the second and part of the third week disposed to mutter and talk incoherently to himself when left alone, and especially at night. The delirium does not commonly become active, and the patient restless and disposed to move about; neither is there any special sense perversion. In certain cases, however, the delirium is active, and sometimes degenerates into what used to be called "coma vigil;" that is, the patient is not conscious of his surroundings; is exalted, garrulous, does not sleep, and takes little nourishment. Again the delirium is violent, and instead of developing gradually during the second week, it ushers in the disease, and may entirely obscure the other symptoms so that the nature of the disease is not recognized. It is

well known now that typhoid fever is very apt to be aberrant in form, and with our present methods of diagnosis the specific source of infection is often found to be present, without any of the usual manifestations of the disease.

The following case illustrates this tendency, and also shows the importance of the study of delirium, and its significance:

M. P., woman; 27 years old; height 5ft. 8½ in.; hair and eyes, brown; nativity, German; occupation, school teacher. The paternal grandfather died of "fever" at 45 years; the grandmother, of "asthma." One maternal uncle died of "fever." The father suffered when a young man from exposure to cold and overwork, and he was intemperate. He died of "dropsy" at the age of sixty. The mother is living, in fair health, but has been "nervous" all her life. The parents are said to have been in good health at the time of the conception of this child; the mother was not ill during her pregnancy; the child was born after a natural labor; the mother was able to nurse her, and she did not have any serious illness during childhood.

There were eight children born to the parents, but six of them died during infancy of "spasms" and "summer complaint." This child was fairly bright, usually cheerful, inclined to be emotional, but with a fair degree of self-control. She began to menstruate at 13 years of age, and did not have any trouble. During her girlhood she was very fond of reading, and disinclined to associate with other children. Three years before her illness she is said to have had an injury to the head, and for two or three years before her commitment it was noticed that she

*Read before the Minnesota Valley Medical Association, at Mankato, December, 4, 1906.

was becoming more quiet and reserved. Later we found out that she had been "nervous" for many years. For a year before coming to the hospital she gradually developed religiosity, became morose, and for two weeks before coming to the hospital she slept very little, had a poor appetite, avoided her friends and relatives, became the victim of pietism, saw the Deity in visions and communicated with him. She was brought to the hospital because she would not eat, was disposed to be violent, and resisted attention. When admitted she was disturbed, restless, noisy, garrulous, and incoherent. Her tongue was heavily coated, but her bowels moved naturally. There were three vaccination scars on each arm, and several moles scattered over the trunk; there was a recent acneiform eruption, and numerous scratch marks over the chest, shoulders, and back. The ankles were slightly edematous, the feet and toes deformed and badly calloused. The nutrition was poor, vitality impaired, skin rough and dry, flesh flabby, weight 135 lbs. The temperature was 100.4°, pulse 96, respiration 25. The heart was increased in size, and the impulse diffuse. The sounds were distinct, and there were no murmurs. The pulse was weak but regular. The chest was flat, the respiratory sounds roughened over both upper lobes anteriorly, and there was a dry cough. Circumference of chest was 82 cm.; expansion could not be tested. The tongue was swollen; coated posteriorly, and the edges were tooth-marked. The appetite was poor, digestion impaired, and she was constipated. The abdomen was tympanitic, and there was slight tenderness in the inguinal region. The hymen was intact, and there was no evidence of plevic disease. The urine was reduced in amount, the urea output was small, the indican and sulphates were increased, and there was some albumen.

No subjective tests could be made on account of the mental condition of the patient. The tongue was protruded hesitatingly in the median line. The pupils were equal, $3\frac{1}{2}$ mm. in diameter; they reacted to light, and there was no nystagmus. There was some paresis of the limbs, but no tremor or clonus. The knee-jerk was diminished, the superficial reflexes absent, and the deep reflexes obtunded. She was untidy in appearance, listless, indifferent, staggered in walking, and stooped in sitting and standing. She was confused, agitated, irritable, obstinate, suspicious, and afraid; heard voices, and saw objects that had no material existence, refused food, and did not sleep.

She gradually became more stupid, filthy, had to be catheterized, and the bowels emptied by enemata. She slept very little, and had to be fed mechanically most of the time; but there

was no material change in her physical condition until the last week in September, when she began to grow weaker, the heart dilated, she became more restless, the temperature gradually rose, until on Sept. 30th it reached 103°.

October 1st. In the afternoon her temperature had fallen to 102°, pulse 136, respiration 32. She was catheterized, and 100 cc. of urine obtained. In the evening she was again catheterized, and the bladder was found to be empty. She grew weaker, the heart-sounds became very feeble, and the radial pulse was imperceptible. She was cyanotic, and the respiration was shallow and rapid. Later she rallied, the heart was stronger, and she slept four hours during the night.

October 2d. The tongue had a thick yellow coat, and the teeth were covered with sordes. The action of the heart was a little better, but there was edema in the posterior portion of both lungs.

During the next four days she was in constant motion, took very little nourishment, had to be catheterized, the amount of urine was very small, the pulse was weak and thready, the lungs again filled up, the pupils dilated widely, and she was apparently moribund. She rallied again, however, and the pulmonary edema subsided.

October 7th. The Widal reaction was present, and a few rose-spots appeared on the chest. The enlargement of the spleen increased, the breath became more foul, and the stools were more frequent. During the next week the temperature went down, she took nourishment freely, became rational, and talked intelligently. She did not gain in strength, however, and the condition of the kidneys did not improve. She began to cough and expectorate, and the sputa contained staphylococci and streptococci. From this time on she failed steadily, but remained rational most of the time and took a fair amount of nourishment. Moist râles were abundant; she coughed occasionally, but did not expectorate much. The amount of urine remained small, and the heart was weak and dilated. During the last week in October the temperature again went up, the lungs began to fill, the respiration became shallow and rapid, and she died October 30th, respiration failing first.

Unfortunately the blood was not examined in this case early, because we were deceived by the evident uremia and the activity of the delirium. It is probable that at the time the Widal reaction was found the patient was in the third week of the disease.

The history of this case has been given in some detail because of the prominence of the two conditions which bear directly on the significance of delirium in typhoid fever, that is, brain

instability and renal inadequacy. It will be noted that during the first part of her illness there were none of the ordinary symptoms of typhoid fever, that, while she was delirious in the beginning of her illness and stupid most of the time, toward the last she became rational, and continued so up to the time of her death. This is the rule, in our experience, with the mental status of the insane who suffer with typhoid fever. Our attention is usually called to the illness of the patient by an exacerbation of irritability or excitement, depression or dullness. But as soon as the disease is well established, usually at the end of the second week, the patient becomes rational, and remains so until convalescence is established. Sometimes this recovery is permanent, but usually the patient lapses gradually into his former mental condition. Herein lies the significance of delirium so far as it is a nervous manifestation. That part of the organism which is the weakest is the first to give way, and the nervous system is particularly susceptible to the poison of typhoid fever.

Under ordinary circumstances typhoid fever first manifests itself in involvement of the alimentary canal, because that part of the organism is the usual avenue of ingress for the specific cause of the infection, and therefore the most vulnerable, but that the infection is a general one is shown by the fact that the specific organism has been found in the blood before there was any evidence of involvement of the alimentary canal. In the individual who is unstable mentally the intoxication from the infection shows itself first in the manifestations of mental aberration. This tendency is not, however, confined to typhoid fever, but may be present in pneumonia, general sepsis, or malarial poisoning. This same disposition on the part of typhoid fever to manifest itself first in the weakest part of the organism, is shown in the frequency with which the disease is ushered in with a pneumonia or a nephritis. Then, again, the degree of delirium is not in proportion with the extent of the physical disease, as was shown by the early history of the case here reported, and by the further fact that it is not uncommon for people in the delirium of typhoid fever to be committed to the hospital without there being any recognition of the cause of the mental disturbance that has masked the ordinary manifestations of the disease. The writer, in another connection, says:

"The term delirium has by usage come to be applied to a mental state, the principal characteristics of which are insomnia, raving, and incessant motion. When the termination is in death, it is preceded by coma, vasomotor paresis, and pulmonary edema. The term raving also implies a continuous process, in which the con-

versation and conduct of the individual bear no relation to his surroundings, and are not influenced by them. The rapidity of the mental processes, and the excessiveness of the motor activity, give to the sum of the manifestations the character of violence. The result of these continuous violent activities is exhaustion, because the patient does not sleep or take sufficient food. However, a careful study of the details of the history of these cases, antecedent to the delirium, will discover some degree of brain instability; the presence of intoxication or infection; the persistence of insomnia; and, usually, obstinate constipation. So the antecedents and concomitants of delirium are practically the same; and whatever peculiarities there may be in the delirium associated with insanity, are to be accounted for by the greater degree of brain instability in the individual."

It does not follow that the delirium is necessarily dependent upon the specific toxemia, because, often, when the intoxication is extreme, as shown by the temperature and the involvement of the sensory and motor parts of the nervous system, there may be little or no delirium. Again, on the contrary, there may be an active delirium and very little evidence of the nature of the intoxication. As stated above, among the insane who have been mentally disturbed for a long time, the illness with typhoid fever dissipates this disturbance, and the patient becomes, in a short time, quiet and rational; while among our employees we can tell from the mental constitution of the individual how active the delirium is going to be. We have had cases of typhoid fever in employees where actual mental aberration replaced the delirium with sensory hallucination, persecutory ideas, and the suicidal impulse. In two cases the character of the individual was so changed by the illness as to alter the whole tenor of his life. Among the insane who have become markedly demented, in our experience, the toxemia of typhoid fever does not produce delirium, but, on the contrary, seems, for the time being, to bring back the waning mental capacity.

Physically, a careful study of the urine will show that the activity and persistence of the delirium are always in a direct ratio to the evidence of the retention of the products of proteid disintegration, which should be eliminated as urea. It is now fairly definitely determined that the processes of intestinal digestion are dependent, to a considerable extent, upon bacterial activity, and this is particularly true of the cleavage processes in the digestion of the proteids. It is a fair assumption that the introduction and multiplication of the typhoid bacillus in the intestinal canal interferes with these cleav-

age processes, and that, as the result, the normal proteolysis is incomplete. Consequently organic compounds are formed, which are not only useless as nutriment, but more or less toxic.

The lowered vitality that results from the specific intoxication, also interferes with the functional activity of the vegetative organs, especially the spleen and kidneys, while the liver is overworked in the effort to reduce the toxic substances that come to it through the portal vein from the intestinal canal. As the result, these imperfectly reduced organic compounds are carried to the heart and distributed throughout the organism. The effort toward the elimination of these substances next falls upon the kidneys. If the kidneys are functionally sound this work may be done, but if they are defective from pre-existing disease, or even functionally exhausted from overwork, these substances are not eliminated, and the effect of their presence is soon shown in progressive involvement of the nervous system.

A case giving negative evidence of this sequence occurred in the experience of the writer some years ago. A man in the beginning of the third week of an attack of typhoid fever, was actively delirious, with pulse of very high tension, the heart overworked, and persistent insomnia. The temperature was usually above 103° F., and he was very restless. One evening he had two large hemorrhages from the bowel of dark fluid blood, but, instead of collapse following, the pulse

became soft and full, the skin, which had been hot and dry, became cool and moist, the temperature fell, the restlessness and delirium subsided, and the patient went quietly to sleep. The next day convalescence was established. The hemorrhage had been therapeutic in its effect, draining the portal circulation, and relieving the overworked liver. This man had previously suffered with malaria, and was subject to hepatic congestion. In another case a relapse was brought about by indiscretion in eating pork, followed by intestinal putrefaction. The function of the overworked kidneys almost failed, and the delirium degenerated into coma vigil. Both of these men were unstable mentally, the one being hypochondriac, and the other subject to outbursts of violent temper.

Delirium in typhoid fever is therefore primarily the evidence of instability in the higher functions of the brain, and the character of the delirium will be dependent upon the degree of this instability, while its persistence is not necessarily the result of the formation of toxins, but is rather due to the fact that these irritant substances are not eliminated. This accumulation of toxins is in its turn principally due to the failure in the functional capacity of the kidneys. Therefore, the delirium is not only significant of the involvement of the nervous system, but is also, by its activity and persistence, an indication of the gravity of the prognosis.

GLENARD'S DISEASE*

BY GEORGE DOUGLAS HEAD, M. D.

MINNEAPOLIS

Dislocation or "dropping" of the viscera has been recognized by anatomists for many years. Virchow, more than fifty years ago, in an article entitled "Historisches Kritisches Und Positives zur Lehre von den Unterleib Affectionen," published in his Archives, called attention to visceral dislocation caused by peritonitic adhesions. Interest from a clinical standpoint dates from two communications made by Glenard: one published in 1885 and entitled, "Application de la Methode Naturelle a l'Analyse de la Dyspepsie Nerveuse;" the other in 1886 entitled, "Enteroptose et Neurasthenie." Glenard, in his original papers, advanced the theory that relaxation of the hepatocolic ligaments was always the starting-point of enteroptosis. This relaxation, he contended, also produced a sagging and bending

of the transverse colon. The sinking downward of the hepatic flexure of the colon dragged downward the right half of the transverse colon up to a point where it connected with the pyloric end of the stomach by the gastrocolic ligaments. A kinking of the lumen of the colon thus resulted, producing a stagnation of the bowels. That part of the colon in front of the bent portion became dilated, but the part beyond the stenosis contracted so that it could be felt as a tense cord.

Ewald, in a later communication, confirmed Glenard's clinical observations, but differed with him in his explanation of the cause of the condition. He contended that the palpable colon beyond the stenosis, described by Glenard as a thick, hard cord, was in reality the pancreas. More recently Keeling, Kuttner, Hertz, Meetzing, Leichtenstern, Curschmann, Fleiner, and others have added much to our knowledge concerning

*Read before the Minnesota State Medical Association, June 19-21, 1906

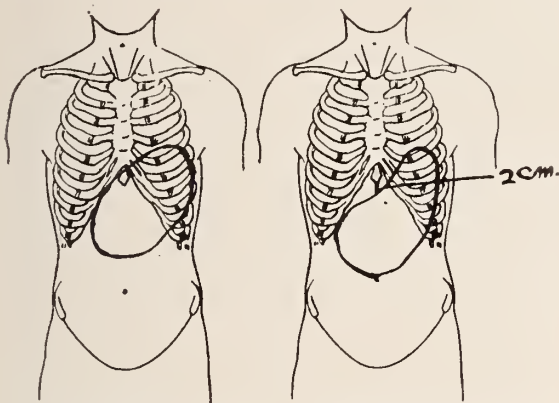
this condition. Clinicians at present are inclined to take a larger view of the condition than the mere dislocation of the colon itself, and the term "Glenard's disease," or enteroptosis, has come to include the dropping down, not only of the colon, but also of the stomach, kidneys, and, in some cases, of the liver and the spleen, this visceroptosis being associated, usually, with a lax abdominal wall, a pulsating, tender abdominal aorta, and a train of pronounced nervous symptoms of the neurasthenic type.

Believing that this symptom-group merits more consideration at the hands of the general practitioner than it is wont to receive, and that it is a clinical condition frequently met with, the writer here presents a study of cases (twenty-six in number) which have come under his observation. That the disease is not confined to women alone is shown by the fact that 10 of the 26 cases were in men. In age the cases ranged between twenty-two years, the youngest, to fifty years, the oldest. The majority were between

toms appeared five years ago, when she worried much about the sickness and death of her child, and so on through the list. In fully fifty per cent of the cases a definite history of nervous worry could be elicited as a causal factor in bringing on the trouble. It is a prominent feature in the histories of the cases, and often gives a valuable clew to the diagnosis.

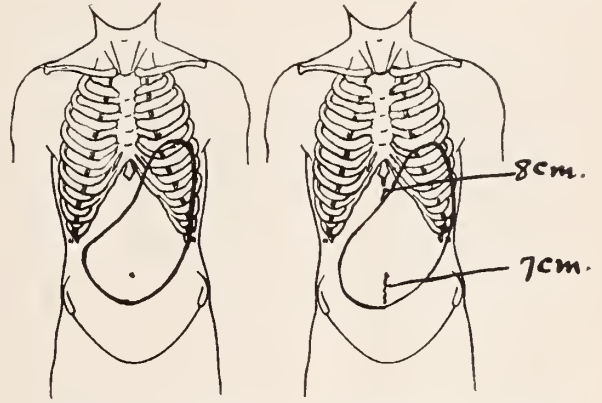
Two other points in the early histories of these cases are of interest in that they may have some bearing upon the cause of the condition.

A majority of the patients stated that they were fast eaters and had been so from childhood. It does not seem unreasonable to suppose that bolting of food in early life may have played a prominent part in the production of the gastropnoptosis and dilatation of the stomach. This too rapid filling of the stomach with food in early life would cause this organ to sag down more quickly in the abdomen than it normally should after eating a meal, and thus produce an over-stretching of its ligamentous attachments. Rapid eating,



1. Normal position of the stomach when distended with gas.

2. Miss W., aged 20 years. Gastropnoptosis. Mild grade; early case.



3. Prof. McD., aged 45 years: Gastropnoptosis: moderate grade. Stomach measurement: 28x24 cm. when distended with gas.

4. Miss S., aged 30 years. Gastropnoptosis. Moderate grade.

twenty-five and forty years. The condition is therefore met with at all ages, but particularly in young-adult and middle-adult life.

From an etiological standpoint one fact in the histories stands out most prominently, and that is the large part played by severe nervous strain, of one kind or another, in bringing on the condition. Mr. R.'s stomach trouble began eight years ago, when he took a responsible position as cashier in a bank. Mrs. H.'s indigestion began when she was eighteen years old. Her mother was sick all summer, and she worked very hard doing housework on the farm. Prof. McD. began to be bothered with pains in his abdomen fifteen years ago, when he took a position as a professor in a college. Mrs. P. has suffered with her stomach thirteen years. It came on at the time when she worried much about her daughter's conduct. Mrs. L.'s symp-

tom, which is not an uncommon habit in nervous children, would also cause too rapid dilatation of the walls of the stomach. A partial loss of the contractility of the muscle fibres of the stomach-wall and a permanent dilatation would finally result. A number of the patients also stated that they were large eaters of sweets, especially candy. Four of the 26 cases had pulmonary tuberculosis, but no etiological relationship could be established between the enteroptosis and the lung condition. All of these tubercular patients complained of inability to digest much food, and were unfavorable patients for treatment. A study of the clinical histories is of interest and throws much light upon the diagnosis of the condition. Nineteen of the twenty-six cases came complaining especially of stomach trouble. This complaint

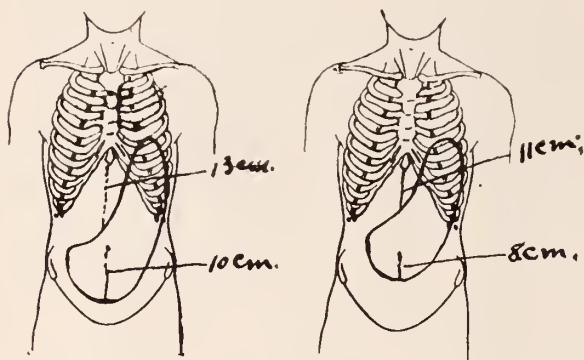
took a variety of forms. In the majority it was in the nature of indigestion or distress in the upper abdomen after eating. Sharp, acute pain was rarely complained of. Some complained of only belching gas after meals. Four of the cases spoke of the gastric distress as coming on in the night or early morning. Seven of the cases spoke of the stomach trouble as coming on after eating, especially when tired and worried. A further study of the histories reveals two special features in connection with the stomach trouble. It had been of long duration, and the patient had never vomited. In only one was vomiting present, and then only occasionally. Absence of vomiting is one of the characteristic symptoms of the stomach complaints of the patients with enteroptosis, and is of great help in differentiating it from carcinoma and ulcer.

A second feature peculiar to the stomach trouble of enteroptosis is its chronicity. Four cases had had stomach trouble all their lives; 7 had had it over ten years; 4 over five years, and

Glenard's disease. He or she is a tall, thin, and, as a rule, dark-complexioned individual, with sharp features, high cheek-bones, prominent forehead, and thin lips. The chest is long, and the clavicles, costal arches, and intercostal spaces are prominent. The abdomen is scaphoid, the walls lax, and the organs therein readily palpated. As one runs the palpating hand over the abdomen he comes at once upon a heaving, pulsating, elongated body in the median line, extending from a point midway between the ensiform and the umbilicus to a point two or three cm. below the umbilicus. This is the abdominal aorta. It is always tender to touch. In the right side of the abdomen at the costal margin will be felt, usually, a kidney-shaped body, which slips up under the ribs on bimanual palpation. This is a right-sided, dislocated kidney. It was present in 14 of the cases. In 4 of the cases a similar body could be felt in the left abdomen, a left-sided, dislocated kidney. Occasionally the edge of the liver, and, more rarely, the spleen, could be felt below the costal margin.

Of greatest importance is the position of the stomach. Sometimes without but always with inflation by gas, this organ takes a position very low in the abdomen, the lesser curvature being midway between the tip of the ensiform and the umbilicus, while the greater curvature lies midway between umbilicus and pubes. In extreme cases the stomach lies even lower, the greater curvature at the pubes, and the lesser curvature at the umbilicus. This low position of the stomach is one of the characteristic features of the disease.

Peristaltic waves will often be seen sweeping over the stomach from right to left. This was noted in six of the cases. Distinct succussion sounds can be usually elicited by tapping sharply the abdominal wall over the stomach area. When distended with gas the stomach area shows dilatation, as well as malposition, measuring from 12 to 14 cm. wide by from 28 to 32 cm. long. The stomach feels like a soft bag of wind when distended with gas. No masses can be felt in its walls or at the pylorus. One must be careful, however, not to mistake the hard-feeling abdominal aorta for a tumor of the stomach, as was done in two of the cases. The transverse colon is dilated and dislocated downward, and takes a position along the greater curvature of the stomach. Its position from a diagnostic standpoint, however, is of minor importance in comparison with the location of the stomach. The stomach-contents examination of these cases shows a remarkably uniform picture. In 21 of the 25 cases chemical analyses of the stomach-contents were made following an Ewald test-meal. In every case free HCl was present, rang-



6. Mrs. B., aged 45 years. Gastroptosis. High grade. Stomach measurement: 13x28 cm. when distended with gas.

5. Mr. J. E. R., aged 34 years. Gastroptosis. Moderate grade. Stomach measurement: 24x25 cm. when distended with gas.

3 under five years. The prolonged history is an important point to bear in mind. This fact often enables one to differentiate the disease from cancer of the stomach.

Much loss in weight is not usually present, although one patient lost forty, another twenty-five, a third twenty, and a fourth ten pounds. Most of these patients were tall, thinly nourished persons, and did not lose or gain weight readily. Headache was a common complaint, as was also backache. Constipation was the rule. Many complained of cold feet and hands; beating or throbbing in the abdomen and palpitation of the heart. Most of the patients were quick, ambitious, and intellectual, but the majority were also melancholic, low-spirited, and great worriers, especially if their stomachs were out of order.

There is only one type of individual which fits

ing from 15 to 40. The total acidity was within the normal limits, 40-70, in all but five of the cases. In three of these a hyperacidity existed, of 76-85 and 110, respectively. Subacidity was present in two cases, total acidity being 19-22, respectively. Lactic acid was absent in all but three of the 21 cases, and present in those three in very small amounts. So uniformly do the gastric analyses show a normal or nearly normal picture in cases of Glenard's disease that the writer now becomes suspicious of a diagnosis of enteroptosis where the gastric contents show no abnormal findings.

DIAGNOSIS

The recognition of this symptom-group is easy if one remembers the salient features. A tall individual; a long history of stomach trouble without vomiting or much loss in weight; lax abdominal walls; a violent, pulsating abdominal aorta; a right-sided floating kidney; a low-lying dilated stomach; and normal findings upon analysis of the stomach-contents.

A careful history and a thorough examination of the patient, especially locating the exact position of the stomach, are the surest means of avoiding error. In two of the cases cancer of the stomach was diagnosed; in three, ulcer of the stomach; in one, gall-stones; and, in one, stenosis at the pylorus, of unknown origin. In one case diagnosed by the writer as Glenard's disease the autopsy showed not only enteroptosis, but also a duodenal ulcer and partial stenosis of the pylorus. Four of the cases, all in women (the men up to the time I saw them had escaped operations), had been operated upon for various pelvic disorders. One had had five such operations: her appendix had been removed, one ovary had been partially removed, the abdomen had been opened twice to break up adhesions, and a hematomata of the left ovary had been operated on. She still came complaining of the old abdominal distress.

TREATMENT

In the treatment of this condition one must bear in mind, first, that the condition is chronic; second, that the patient is highly neurotic; third, that the patient is ill nourished; and, fourth, that, while the symptoms are in all probability caused by the malposition of abdominal organs, mechanical appliances, rather than surgical procedures, produce the best results.

To successfully handle a case of Glenard's disease, requires patience, tact, and a thorough study of details. The nervous symptoms are best treated by a rest-cure of six to eight weeks, preferable in the open air under quiet surroundings

away from all home cares or worries of business, with an intelligent attendant and daily massage. The ill nourished state of the patient requires a study of the diet and proper regulation of the feeding. Sweets, pastries, most vegetables, cream, milk, and olive oil are badly borne. Raw eggs, beef-steak, dry toast, breakfast foods with dilute cream, cream soups with crackers, junket, custard, jelatine, and pudding are the best. Cathartics should be avoided as much as possible. Syr. hypophosphite comp., U. S. P., and tinct. nux vomica help to relieve the gastric distress. Washing out of the stomach as a daily routine measure does not relieve many of the cases, but lavage of the stomach when the patient is in distress, is of real value, and judiciously employed is one of the most valuable methods of treatment at our command. The best mechanical appliance in my experience is a loosely-fitting waist to the lower part of which a heavy pad, at least two inches thick, is sewed. This pad is firmly held by the waist, and cannot slip up or down, and presses firmly against the lower abdomen. The waist should be supported by wide straps over the shoulders. All skirts worn by the women patients should hang from the shoulders. No tight bands about the waist should be worn. Anything which strengthens the abdominal muscles, such as massage, working out of doors, etc., should be encouraged. Sewing of the right kidney in place will help some of the cases, but, as a rule, does not relieve the gastric symptoms. Other surgical procedures, such as taking a reef in the stomach, gastro-enterostomy, etc., have not proved curative. The condition is a chronic one. The patients often relapse under nervous strain or worry. Having been taught what to eat and how to live they are comfortable, but rarely happy.

PHYSIOLOGICAL ACTION OF MASSAGE

Gustav Norstrom declares that the affections in which massage has yielded the best results are those in which the normal relations of the tissues or their elements are altered. In order to obtain a clear idea of the physiological action of massage, one must become familiar with the laws of nutrition of the tissues, of which absorption is one of the main factors. Friction accelerates the venous circulation and diminishes existing stagnation. The beneficial action of massage on fatigue may be explained by the assumption that absorption is increased by this treatment. The writer concludes his paper with a reference to the beneficial action of massage in cases of neuralgia.—Medical Record.

FOURTH OF JULY CASUALTIES AND WHAT CAN BE DONE IN MINNEAPOLIS TOWARD THEIR SUPPRESSION

PRESIDENT'S ANNUAL ADDRESS BEFORE THE HENNEPIN COUNTY MEDICAL SOCIETY

By FRANK C. TODD, M. D.

MINNEAPOLIS

RETROSPECTIVE AND PROSPECTIVE

During the past year the Hennepin County Medical Society has seen some epoch-making changes. It has moved into new and commodious quarters, which have been secured free of rent. The number of meetings has been doubled without decreasing the attendance. Many scientific papers and addresses have been given before its members, some of which represented a vast amount of work by experts, furnishing programs of which we may well be proud. We have departed somewhat from the regular routine program in arranging for essays and lectures, which have sometimes been illustrated by lantern-slides, given by men who have spent much study in preparation of their work, and in presenting symposia upon subjects which were timely, interspersed with meetings containing papers not correlated, but of more varied interest. We have also allowed time, and arranged in advance, for the showing of medical and surgical cases.

We have during the past year inaugurated the plan of preparing the program for a year in advance and of having it printed. We believe this has enabled us to secure a somewhat better program. It certainly adds interest, and allows of a better arrangement; and your retiring president would recommend that the program for the year beginning next September be now planned, so that it may be printed and distributed just before the first meeting in the fall.

Regarding papers and discussions the following recommendations are urged: The length of papers should not be over fifteen minutes, and those who have previously been appointed to open discussions should be allowed ten minutes, while other speakers should be allowed but five. The writer of a paper, knowing the rule in advance, will usually be able to present as good a paper as if more time were allowed and, indeed, may have boiled out much that otherwise might have wearied his hearers. We should distinguish,

however, between the regular routine papers and theses, upon the latter of which much time has been spent in preparation and which may require illustration. When such theses are to be delivered an entire evening may be necessary, as was the case on several occasions during the past year, notably the essays of Drs. I. Frank Corbett, J. Clark Stewart, and W. A. Jones. You will all agree that we are much indebted to such experts for giving us the advantage of their study. We believe, further, that the plan of having occasional symposia, interspersed with the mixed programs, is practical. We believe the details connected with all matters of business should be, as has been the practice since the adoption of our new constitution, carried on through the Executive Committee, thus allowing the Society to devote its time largely to the consideration of scientific subjects.

It is a source of gratification that the Hennepin County Medical Society has adopted a fee-bill in which the charges have been brought to a point where they should be, and it is especially pleasing that in the discussion of this matter there was such unanimity of feeling. With such harmony of opinion we should be able to carry out the suggestions and principles laid down in the incorporation of the new fee-bill. We trust that the members will use their best efforts toward the attainment of the ideals presented therein. And this shows us the value of organization, and emphasizes the importance of unity of action.

It is extremely desirable that every physician who is eligible to membership in our Society should become a member, for thereby the power of the Society is strengthened, and, furthermore, its beneficial influence is extended to a larger number of physicians. While the Society gains by enrolling a larger membership it has far more to give than to receive, and the new member is the one to profit most. It is not only the duty but the business of physicians to become members of medical societies. Those who do not must fall behind. The stock in which they trade is replenished

at its meetings. There they may be made to progress in their work, and we have but to look around us to observe the difference between those who do thus replenish their stock and those who are still selling the same out-of-date goods. This fact is recognized by such organizations as insurance companies, upon whose reference-blanks will often be found the question, "To what medical societies does the applicant belong"? and sometimes the significant inquiry, "Is he a member of his own county society"? Indeed, the man who does not belong to his county society is coming to be looked upon with suspicion, and this view will become more prevalent in time.

What a mistake our Homeopathic friends, in this community, are making not to unite their cause with ours. The line which exists between them and us is not as great as between different members of our own Society. We know that union must take place sooner or later here, as it has in many other places, and it is a pity that it should be delayed beyond the time when some may have the opportunity to profit by the added strength which must come from such union, especially to those in the minority.

Believing it to be desirable that all eligible physicians should become members of the Hennepin County Medical Society the Executive Committee has authorized a physician who is soliciting members to the A. M. A., to solicit at the same time applications to our Society among such physicians as are considered eligible, and we believe this gentleman should be encouraged in his work.

Your retiring president desires to take this occasion to thank the members of the Society for their co-operation which has made his task one of pleasure and caused harmony to exist during the entire year. He wishes especially to thank the officers for the energy they have put into their work. You chose wisely when you selected the present incumbent to the position of Secretary-Treasurer, Dr. Bradley, for he has filled it well; never failing to do his work, always present on time at both general and committee meetings, never having occasion to offer any excuse for work undone; faithful and uncomplaining despite the fact that his job is a thankless one and the labor much.

Our librarian, Dr. Spratt, though always having enough to do, has had an exceptionally busy year this past one, because, in addition to his regular duties, he has had charge of the moving and preparing of our new quarters with all that means. You know how well he has accomplished his task. He has been efficiently aided by other members of the Board, Drs. Kimball and Litzenberg.

Although the Executive Committee has had much work and frequent meetings, they have not shirked, and, busy as they all are in their private occupations, the occasions when there has not been a full attendance at their meetings have been rare. The Society is, therefore, to be congratulated upon the fact that the same members will constitute the Committee for the ensuing year.

The Censors, too, should come in for their share of praise, since their duties are sometimes the most unpleasant. They require, and should have, the confidence and support of every member of the Society.

Not to be forgotten is our modest vice-president, Dr. Crosby, who has done what has been asked of him, though it should be remembered that this office is one, unlike the others, solely of honor.

The Society is to be congratulated upon the present condition of the finances. At the beginning of the year just closed there was a deficit which was generously made up by Dr. Bell, and now, despite the added expense of about \$300 incurred in moving, re-decorating, etc., there is a surplus of over \$600, \$238.78 of which was the surplus collected by our very efficient Entertainment Committee, headed by Dr. Benjamin, which surplus has been applied to a building fund.

With the growing membership, due to the efforts now being made, and the saving of the unusual moving expense, if the Society practices the same economy this coming year, we shall add a still greater amount to the balance, and we should never again allow the Society to be without a substantial surplus. With our present membership it is inexcusable.

Much more might be said along the lines upon which I have spoken, but I desire to take up the balance of my time by calling your attention to

FOURTH OF JULY CASUALTIES AND WHAT CAN BE DONE IN MINNEAPOLIS TOWARD THEIR SUPPRESSION

The first Independence-day demonstration occurred July 8, 1776, and consisted in the firing of a cannon thirteen times, the ringing of bells, and the making of speeches. For many years, on each anniversary of the Fourth, there occurred a repetition of this form of celebration, the demonstrations becoming more general, but the essential idea was to generate and keep alive a national spirit, which, in the early days during the formation of the Nation, was quite necessary. In these reconstruction days much was heard of "state's rights," and there was a tendency of the states

to pull apart rather than together. Even if it had been necessary to sacrifice a few lives every year in the cause of building up a national spirit, one might argue that the end might have justified the means. But I cannot find that it was then thought necessary, and about the only thing that occurred, besides the ringing of bells, military parades, and speeches, together with the display of colors, was the firing off of cannon. In the smaller towns where cannons were not to be had, anvils were utilized, one being placed over the other with powder between, much noise being created when the powder was touched off by means of a long iron, one end of which was heated. This required only a few to manipulate, and these were men, while others were simply listeners.

Gradually, however, as man became more ingenious and fireworks more varied and numerous and more easily procured, the noise habit increased and the patriotic speeches decreased. Back of such demonstrations there is little thought of the real meaning of this holiday; indeed, the influence is quite the opposite. It generates a spirit of disorder, and encourages the hoodlum element in the human being to run riot.

About the only thing the Fourth of July is now associated with is noise and the things that occur as a consequence of the methods used to produce that noise, namely, distress to those who desire rest and quiet, suffering to the sick, and death and blindness to many innocent victims.

Physicians and medical societies have accomplished great results in stamping out preventable diseases, such as smallpox, and the work being done now in the fight on tuberculosis is reducing the mortality-rate tremendously. All of this work is very much more difficult than would seem to be the reduction of the accidents and deaths as a consequence of the present method of celebrating the anniversary of the Declaration of Independence, for on this

one day every year, our good people are allowed to kill off several hundred persons, create partial or total blindness in, or otherwise maim, many others, and to destroy much property by fire.

This is our method of celebrating our independence. We sacrifice, as it were, to a Deity of Independence, from one hundred fifty to five hundred human lives annually. Isn't it a pity that they are not more carefully selected?

I presume there is not a listener who is not convinced of the folly of our method of celebrating our independence, and those present do not need statistics to convince them of its necessity. I give them, however, in case you may need them in carrying on this crusade.

There is no method by which I have been able to secure the number of cases of loss of eye-sight in Minneapolis, nor are the Minneapolis statistics of injuries accurate, in that they fall far short of the number of cases actually injured. It is the rule that patients coming under our care do not desire to have their names published, and therefore many do not get into these statistics. Statistics of deaths are accurate, as they are taken from the records of boards of health. Other statistics are fairly accurate, being taken from the Journal of the American Medical Association, but necessarily the number of injured cases is much understated.

The deaths from tetanus in Minneapolis are as follows: 1903, four cases; 1904, three cases; 1905, two cases; 1906, two cases. I have not secured statistics for deaths directly due to accident previous to 1906, but during that year there were two deaths from other causes than tetanus, making a total of four deaths. There were about sixty-two injuries. The number of fires is given as follows: 1904, seven; 1905, six; 1906, six. In addition to these fires it should be remembered that the department is called out many more times, and is kept at a high tension on the Fourth of July.

Summary of Fourth of July Casualties

	Deaths			Injuries						Total Persons Dead or Injured	Causes of Tetanus Cases		Causes of all Cases Aside from Tetanus Cases						
	From Tetanus	From Other Causes	Total	Loss of Sight	Loss of One Eye	Loss of Legs, Arms or Hands	Loss of Fingers, One or more	Other Injuries	Total Non-fatal Injuries		Blank Cartridge	All Other Causes	Blank Cartridge	Fire Crackers	Cannon	Firearms	Stray Bullet	Canes and Caps	Powder and Fireworks
1906 totals.....	75	83	158	22	72	56	227	4931	5308	5466	35	925	1690	408	345	187	162	1660	
1905 totals.....	87	95	182	25	106	80	221	4562	4994	5176	39	744	1775	474	265	139	171	1504	
1904 totals.....	91	92	183	19	61	61	208	3637	3986	4169	25	931	1268	508	406	+	++	1056	
1903 totals.....	406	60	466	10	75	54	174	3670	3983	4449	29	1309	1152	397	236	+	++	731	

The reader, upon studying these statistics, will be at once struck by the large number of deaths occurring from tetanus in 1903, and the fall from 406 to 91 in 1904, and a gradual reduction to 75 in 1906, despite the fact that the number of persons injured has increased from 4,449 to 5,466. This decrease in the number of tetanus cases is due to the fact that the Journal of the American Medical Association began at that time to take the matter up, and call it to the attention of the physicians of the United States, and to the fact that the method of treating these cases has improved. There can be no doubt of the value of antitetanic serum as a preventive of tetanus when given previous to the development of the disease, no matter how ineffective it may be after the disease has developed. As evidence of the fact that the modern treatment of these cases is responsible for the decrease in the number of deaths from tetanus and also of the value of the antitetanic serum as a prophylactic measure, note the statistics of Dr. H. J. Scherck, in charge of the City Dispensary in St. Louis. In 1903 on the Fourth of July there were treated at this dispensary fifty-six cases of injury, sixteen of which resulted in tetanus. The following year more thorough measures were adopted in the treatment of these injured cases, and antitetanic serum was administered at once to every case that came to the dispensary, and this has been the practice every year since, and though the number of cases has increased as follows: 1904, thirty-seven cases; 1905, eighty-four cases, 1906, one hundred seventy cases, not one case of tetanus has developed.

The following table gives the causes of the different cases of tetanus. It will not be of much comfort to parents of children using fireworks, because it will be noted that injury from every kind of fireworks may be followed by tetanus.

Causes of Tetanus

	Blank Cartridge	Giant Cracker	Cannon	Firearms	Powder, Etc.
1903.....	363	17	5	3	27
1904.....	74	18	5	1	7
1905.....	65	17	4	5	13
1906.....	54	17	1	7	10

Though the weapon found most effective in mutilating the human body, is the giant firecracker, firearms have also proven very useful, and the toy-cannon is a close third, while no kind of a device is innocent of harm, and "even canes and caps, which at first were heralded as a safe means of noise-making, are not proving to be as harmless as at first supposed. The noise element is certainly a success, but the exploding cap often causes penetrating wounds of the ankles or legs." Thus it is evident that

little can be gained by restrictions which do not prevent the use of fireworks of whatever kind.

Of course, we know this foolish custom must sooner or later be abolished, but why not now? Why must we kill off more before the evil is stopped. It may affect you or yours next time. *It is a matter upon which there can be but one opinion, and, aside from a few who may be willing to profit financially at the expense of the dead and maimed, there should be no opposition to enforcement of the law prohibiting all forms of fireworks.*

Through the efforts of my colleague, Dr. Robert L. Randolph, of Baltimore, much has been done toward the prevention of accidents in that city. In Baltimore (a city of 560,000 inhabitants) previous to the time of his crusade there were between one and two hundred injuries annually, but in 1905 there were only six injured and no deaths, and in 1906 there were only five injured and no deaths. We should likewise, be able to eliminate accidents and fires which occur in Minneapolis by preventing the firing off of fireworks. It is only necessary to arouse public sentiment to secure the enforcement of the law, which reads as follows:

The City Council of the City of Minneapolis
Do ordain as follows:

Section 1. No person shall hereafter explode, burn, or fire off any rocket, firecracker, roman-candle, or other species of fireworks or pyrotechnic display within the corporate limits of the city of Minneapolis. Nor shall any person fire off, discharge, or explode any gun, pistol, or other weapon, except as provided in this ordinance, within said city limits.

Sec. 2. Any person, corporation, or association desiring to fire any salute, shall obtain the permission of the City Council or Mayor of said city to the firing of such salute or display of such fireworks, which permission shall be in writing, and shall designate the place where and the time when such salute shall be fired, or such display of fireworks shall take place.

Sec. 3. Nothing in this ordinance shall be construed to embrace any firing of a gun, pistol, or other species of firearms when done in the lawful defense of person, property, or family, or in the necessary enforcement of the laws.

Sec. 4. Any person violating any of the provisions of this ordinance shall, upon conviction before the municipal court of said city, for each and every offense, be punished by a fine of not less than one or more than seventy-five dollars, and be imprisoned until such fine is paid, not exceeding ninety days.

Sec. 5. This ordinance shall take effect and

be in force from and after its publication.

(Passed May 17, 1877. Approved May 18, 1877, 3 C. P. 60 p. 52, Ordinance Records. As amended April 9, 1888, 13 C. P., 971.).

A great uproar is made over the comparatively few accidents and deaths that occur every year from football so much that the game has been reformed. And yet during its worst days football has, no doubt, saved many more lives than it has destroyed; by building up many constitutions and teaching young men how to live healthy lives; by keeping their habits good and regular, and preventing dissipation. This has resulted in good not only to the eleven men of the team, but to hundreds of others who are inspired by an ambition to

"make" the team live the right kind of lives, take proper exercise, and eat proper food, thus developing strong physiques with which to enter the battle of life, and last, but not least, learning a lesson they will never forget, namely, that good health comes from right living.

So, if we grant that football may cause an occasional death, yet it results in much good, while our foolish method of celebrating the Fourth of July results in deaths, many cases of blindness and other deformities, and a large number of fires, all to no purpose whatever.

The Fourth of July, because it is the anniversary of our independence, should be a day of happiness, but it has degenerated into one of suffering and mourning.

ACCIDENTAL PERFORATION OF THE UTERUS DURING SURGICAL MANIPULATION*

By H. B. SWEETSER, M. D.

MINNEAPOLIS

Accidental perforation of the uterus during surgical manipulation is probably of much more frequent occurrence than is indicated by the published records, and I suspect that not a few deaths might be justly ascribed to such a mishap, if the death returns were always properly reported. Occurring, as it most often does, in the course of a so-called trivial operation (for most of the cases are due to the use of the sound or curette or some form of dilator in patients not really very sick), it requires considerable courage on the part of the operator to acknowledge such a mishap, especially if the result proves to be serious or fatal.

Probably no organ in the body is so indiscriminately or so carelessly subjected to surgical attack as is the uterus, and for the following reasons:

1. First, on account of the ease with which such operations may be performed. To pass a sound, dilator, or curette is apparently so simple a matter that no one doubts for a moment his capacity, or hesitates to recommend it, in or out of season.

2. Second, on account of our preconceived erroneous ideas concerning the character of the structure we are dealing with. We are prone to think of the uterus as being a thick, firm, muscular body, capable of being subjected to a great amount of rough usage without any danger

of injury. This idea we get from examination of the normal uterus in the dissecting-room and at autopsies, and it largely accounts for much of the recklessness and lack of appreciation of consequences which characterizes many of the published cases in which this disaster has occurred. That it has not, by any means, always such a resistant structure may, however, be very quickly learned if we examine it during the puerperium or under certain pathological conditions.

From the consideration of the above, and because of some recent personal experience, I have been led to present this subject to the Association at the present time, in order to call attention again to the fact, as has been done many times before, that these so-called minor operations on the uterus are not the innocent affairs they seem to be, and that they may be dangerous, and are, indeed, often fatal.

Perforations may occur under two entirely different sets of circumstances. In the first the uterus is practically normal in consistence, but because of undue force used, or because the operator fails to apprehend the exact position and size of the organ, the sound or curette or dilator is pushed through some part of the uterine wall. If, now, the fact of the accident having happened is not at once appreciated, the operator is liable to continue his manipulations, and produce extensive and often fatal injuries. A number of cases illustrative of this class have

*Read before the Minnesota State Medical Association, June 19-21, 1906.

been reported, many of them having a fatal issue.

In a case reported by Harvie of Troy, N. Y., six feet of bowel were pulled down and cut off before the physician realized what he had done. Macrae of Council Bluffs reported one in which the physician pulled down twenty-eight inches of bowel and then, meeting with resistance, forcibly detached it by tearing, the patient dying in three hours from hemorrhage. Murphy of Chicago resected successfully three feet of bowel which had been pulled through a perforation. Klusen of Philadelphia reported and illustrated a case in which a curette was used so long and persistently as to finally scrape through the uterine wall and drag down a large section of the omentum. Operation in this case was followed by recovery.

My own case, which was somewhat similar to the above, occurred in the practice of a young physician of this state, and presented the following history:

Patient was a young, healthy woman, twenty-three years of age, married two and a half years, mother of one child eight months old. She was supposed to have miscarried a short time before, there being some irregular, hemorrhagic flow. Under chloroform anesthesia a curettement was attempted. A dilator was inserted and opened; an Emmet curette forceps was then passed in, its jaws separated, and closed and withdrawn. In the bite of the forceps was found a bulky, membranous tissue, which was fortunately at once recognized as bowel. This was pushed back through the opening, the vagina plugged, and the patient removed to the hospital, where I saw her. When seen, the patient was suffering intense pain, but otherwise was in good condition. The accident occurred at 4 p. m., and at 5:30 p. m. the abdomen was opened through a medium incision four inches long. The uterus was found of normal size, of firm consistence, and ante-flexed. There was a ragged tear, about one inch long, in the posterior wall of the cervix, rather to the left side. It was plain that neither the dilator nor forceps had passed the internal os or entered the body of the uterus, showing evidently that the position of the organ had not been previously defined. After suturing the perforation, the injured bowel was sought for. This was easily and quickly discovered, and found to consist of a piece forty inches long which had been stripped clean from the mesentery, and yet at no point was there the slightest trace of a tear in the injured portion. This was fortunate for the patient, as it prevented soiling from fecal extravasation. Resection and end-to-end anastomosis with silk was done, and the abdomen closed without drain. Feeding was done by bowel for forty-eight hours; then liquid diet till the fifth day, when ordinary food was allowed. The temperature reached 100° F. on the second day, but

was normal thereafter. The bowels were moved by enema at first, but after the seventh day moved of themselves. The patient left hospital on the fourteenth day, perfectly well. Recently I heard she is again pregnant, but has not yet been delivered.*

There are several points of interest in this case:

First, when the abdomen was opened, there was found practically no extravasated blood. This must have been due largely to the forcible tearing and consequent curling up of the ends of the torn vessels; but I think the shock also helped by lowering the blood-pressure, and I would surmise, from the record of other cases, that hemorrhage would have occurred later if operation had been postponed till shock had been recovered from. Under such circumstances, the sooner the abdomen is opened the better the outlook.

Second, the fact, which struck me as remarkable, that sufficient force could be applied to the intestine through the closed jaws of a pair of forceps so as to detach forty inches of it clean from the mesentery, and yet not lacerate it at any point.

A third point of interest was in the appearance of the detached portion of the gut after resection. The resected portion consisted of the part torn loose and about two inches at either end, so as to allow for anastomosis in healthy tissue. These latter areas presented well marked rugæ and valvulæ conniventes, characteristic of the upper part of the small intestine. In marked contrast to this was the physical appearance of the part which had been torn loose. This was as thin as parchment, the mucous surface being absolutely smooth and with no trace of rugæ or valvulæ conniventes. Although there were no areas of blood extravasation between the layers, this appearance was probably due to a tearing of the longitudinal muscular fibres.

In the second class of cases the uterine wall is abnormally soft, and may be so soft that a sound or curette, while perforating it, gives no sensible change in the resistance transmitted to the hand of the operator than it gave while still in the cavity of the uterus and touching its inner surface. In these cases no amount of skill or experience or care can guard against a perforation, and it is only to be suspected when the sound slips in further than would be possible from the size of the uterus as determined by bimanual palpation. It is not to be wondered at, therefore, that such perforations have occurred to surgeons and gynecologists of the widest experience. Here, again, if the fact of the accident having happened is not at once appreciated, very extensive

*Subsequent to the reading of this paper, patient has been successfully delivered of a living child with a normal puerperium.

injury may be produced. Herein lies the skill. I confess that I was rather skeptical of the possibility of such accidents occurring in carefully conducted examinations until I had the following very interesting and instructive experience:

In October, 1903, there was admitted to St. Mary's Hospital Mrs. P., 38 years of age, mother of eight children, the youngest being five months old. Her history was as follows:

Prior to her last pregnancy she noticed that her abdomen was more protuberant than formerly, but thought it due to abdominal fat. During this pregnancy she was more uncomfortable and much larger than in her previous one. After her confinement, which was without incident, the abdomen did not subside normally. This was at first ascribed to faulty involution, but later a tumor was recognized. This increased in size, and when the patient was admitted to the hospital there was found a hard, tense, non-fluctuating globular tumor, occupying nearly the middle line, and reaching to the umbilicus. Bimanual examination failing to differentiate the uterus from the tumor, I attempted to steady and pull down the uterus by means of a tenaculum caught in the anterior uterine lip. This at once tore through as easily as if it had been inserted in wet blotting paper, and the resulting laceration bled so profusely as to demand tight plugging of the vagina to control it. Three days later, prior to and after everything was ready for abdominal section, I again attempted a differential diagnosis, and passed a uterine sound. Because of the recognized extreme softness of the uterine wall, this was passed with the utmost care and with a minimum amount of force. It passed in its entire length, and at no moment was I able to perceive the slightest change in the amount of resistance offered during its passage. I therefore felt obliged to change my probable diagnosis of ovarian cyst to one of soft uterine fibroid. I then opened the abdomen and discovered a slightly enlarged uterus with a small perforation through the fundus. The tumor was a tensely filled, left ovarian cyst holding about four quarts of fluid with many adhesions to the omentum, bowel, and appendix. Recovery was entirely uneventful. Neither before nor since have I met with a uterine wall so utterly without resistance as in this case, and I am at a loss to explain it.

Considering the prognosis of perforation of the uterus, death may result from (a) hemorrhage, (b) damage to the viscera, or (c) infection of the peritoneum.

(a). Dangerous hemorrhage is possible, but not at all probable from the laceration itself.

(b). Injury to the abdominal viscera, which, in the recorded cases, has been limited mostly to the intestine and the omentum, is most likely to

lead to very serious consequences; and many of the fatalities have been caused by such injuries. Such extreme injuries, however, ought not to happen, it seems to me, with the exercise of ordinary care.

(c). In the simple cases, peritonitis is the complication most to be feared. If the surgical attack is done for some septic condition of the uterus, then, of course, the danger of contamination is great; and, as these uteri are always pathologically soft, it behooves us to exercise, under these circumstances, the greatest care in avoiding the accident. If, however, the tract is non-septic, then the prevention of peritonitis is largely under our control by means of aseptic technic, and ought not to occur. As a matter of fact not a few cases have been reported in which a perforation has been proven through a subsequent laparotomy, and yet no harm has resulted. From which we may conclude that, if damage to the abdominal viscera has been avoided and if infection has been guarded against, such perforations of the uterus are not of serious moment, and ought not to be followed by fatalities. If, on the other hand, infection has not been guarded against throughout the operation, or if damage to the viscera has occurred, then the mortality percentage is sure to be high.

When we come to consider the treatment, prophylaxis is of extreme importance.

Whenever manipulations are carried on within the uterine cavity, the possibility of perforating its wall should always be borne in mind. Before inserting any instrument the exact position and size of the uterus should be determined as definitely as possible by bimanual examination. The utmost gentleness should be used, and an instrument ought to be allowed to glide in of its own weight, and, if it will not so enter, its extremity must be coaxed in various directions until successful, for any force whatever is absolutely inadmissible. It goes without saying that the most rigid asepsis must be maintained in any operation within the uterus, and this is especially true when the possibility of perforation is present.

In the presence of perforation the plan of treatment to be pursued will depend altogether on the extent of damage done. If it occurs in the course of an examination or operation in which sepsis has been carefully guarded against and no traumatism has been inflicted except that to the uterine wall, then, inasmuch as the danger is minimal, the best course is to stop any further manipulation and return the patient to bed.

An exception to this would be when the rent is a large one, and there might be danger of a prolapse of a loop of intestine or of the omentum. In such a case, one of two methods might

be employed either plugging the cavity with gauze or a celiotomy. Of these, the latter is preferable, first, because the rent may then be sutured, thus securing less scar tissue and a firmer union to better guard against subsequent rupture; and, second, because, otherwise one cannot be sure that injury has not been done to the viscera.

Under any circumstance irrigation should never be employed after a perforation, on account of the danger of leakage into the peritoneal cavity with resultant peritonitis.

If injury to the abdominal viscera is suspected, either from the amount of trauma inflicted or from the degree of shock, by far the safest course is to open the abdomen for inspection. Of course, in those cases in which there is gross evidence of damage done to the abdominal contents, the only treatment is to promptly open the abdomen and repair any injury found.

In conclusion, there are several points which I think ought to be emphasized.

1. The uterus has not always a firm, thick wall capable of withstanding rough treatment.

2. Perforation of its wall is by no means infrequent.

3. Its position and size should be determined in every case before manipulations are undertaken within its cavity.

4. Rigid asepsis should be maintained in all cases.

5. Any force in the introduction of instruments used in manipulations is absolutely inadmissible.

6. If perforations occur, any intra-uterine manipulations should be at once suspended.

7. The subsequent treatment will depend on the amount of damage done.

8. Irrigation is dangerous.

DISCUSSION

DR. H. P. RITCHIE (St. Paul): I have seen two cases of rupture of the uterus, both of which were traumatic. The first one resulted in a hernia of the intestines, which presented at the vulva. The second case was a concealed hernia, the intestines entered only the uterus. The first case was the result of instrumental dilatation of a pregnant uterus with the common dilators that we use. The second was unquestionably due to the pushing of a probang through the wall. Both of these cases presented the same features Dr. Sweetser has described, soft, mushy, large uterus which would not withstand the examination. The perforation in both cases occurred in the posterior wall, and I think there is a tendency, as the pregnant uterus rises out of the pelvic cavity, to reach the posterior wall first. The intestines were returned to the abdominal cavity with great difficulty because of the continuous contraction of the uterus. They were successfully reduced with no further effect upon them than we see in strangulated inguinal hernia.

This case made an uneventful recovery, and is now well. The second case was where a probang entered the uterus and pushed through into the abdominal cavity and in subsequently exploring the uterus something which we thought to be the retained placenta could not be dislodged. This was found to be the mesentery. This woman was opened up, and resection of the intestine made. She also made a perfect recovery.

The fact is that in many of these cases we too often use instruments. I think the gloved finger introduced can demonstrate better than any instrument as to the condition of the mucous membrane and will give us intelligent direction for any instruments which may be found necessary to entirely clear the uterus.

PHYSIOLOGIC CHEMISTRY

CONDUCTED BY

RICHARD OLDING BEARD, M. D.

Professor of Physiology, University of Minnesota

ASSISTED BY

J. P. SEDGWICK, B. S., M. D.

Instructor in Physiologic Chemistry, University of Minnesota

INACCURATE METHODS OF MILK ANALYSIS

All of us are familiar with the methods of milk analysis described by most writers on pediatrics. These methods, employing the lactoscope, cream guage and hydrometer, receive very scant attention in the best manuals of physiological chemistry technic.

The more accurate methods are: For fat, instead of the cream guage, either the centrifuge separation by some modification of the Babcock

procedure, or the extraction with ether and the weighing of the fat according to Soxhlet.

Rehyer has recently called attention to the errors of the older methods of collecting human milk for estimation. He has proved that the fat content rises in a straight line during the act of nursing. Therefore, according to his elaborate work recently published, he mixes equal amounts of milk from the beginning, middle and end of the nursing. He thus avoids the liability to er-

ror which the former plan of taking the whole milk, pumped from the breast, or a uniform sample from the middle of the nursing involved. He found that the fat content varied from 2 per cent to 12 per cent, according to the time of taking the milk.

The estimation of sugar by the Fehling method, after removing the proteids, has stood the test of time.

The estimation of the proteids, as it is often advised, by formula from specific gravity and fat content, is apt to be a travesty on chemical technique, as the following instance will show. An estimation made by this method, by a very competent physician, indicated 4 per cent proteid in the mother's milk. He, therefore, advised the weaning of the babe. Mistrusting, however, the test method, he requested an analysis by approved chemical procedure. By the Kjeldahl method of determining the nitrogen and reckoning the proteid therefrom, a result of 1.4 per cent proteid was twice obtained. The babe was put back to the breast and thrived upon the milk which the inaccurate estimate had condemned.

A well known writer says that the method of the cream gauge and the specific gravity is quite as accurate as are the urinalyses usually made. If he is right, our urinalyses do not amount to much.

SEDGWICK.

While it is unquestionably desirable that the services of the expert physiological chemist should be employed in the determination of the proteid and fat values of milk, it is unfortunate that the expert is so frequently out of reach of the general practitioner. The rough and ready method of the cream gauge and hydrometer, susceptible as it is of easy error, may, nevertheless, by careful and repeated observations, serve as something of a guide to the busy and, more or less, isolated physician. Recognizing the need, however, for the general adoption of more accurate methods, our best teaching laboratories are now embodying in their courses of physiologic chemistry, systematic instruction in the Kjeldahl nitrogen determination and the Soxhlet fat separation process, as essential features in the study of the body fluids and tissues.

BEARD.

THE ABSORPTION AND RETENTION OF IRON.

Ever since the epoch-making studies of Bunge concerning the absorption of iron, the subject has created very lively discussion. After Bunge's studies had led him to the opinion that the iron preparations act indirectly by uniting themselves with the sulphides in the

bowel, and thus leave the iron containing protein compounds free for absorption, and after his sarcastic remarks concerning the relative value of Bland's pills and blood sausage, organic iron compounds sprung up like mushrooms.

The subject of the absorption of the iron of the blood, has been somewhat obscured by the mass of literature concerning the different iron preparations. The demonstration by Bunge that the ash of the young mammal contains the mineral constituents in the same per cent proportions as the ash of the milk intended for its use, with the one marked exception that the iron percentage of the milk ash is much lower, emphasized the importance of the dietary iron. Practical pediatricians very soon began to employ the vegetables with a high iron content, such as spinach, as a convenient means of meeting the indication for iron.

The careful metabolic experiments of Krasnogorsky, of St. Petersburg, published last November, concerning the absorption of iron in children, gave us an interesting and valuable confirmation of the correctness of the clinical usage.

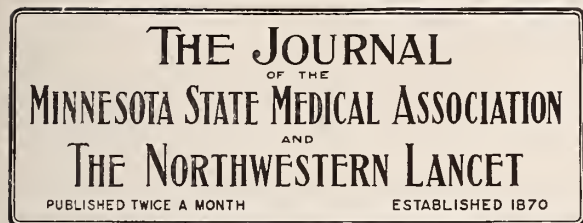
An infant seventeen days old retained 80.28 per cent of the iron of the breast milk. The same child was then put on goat's milk, boiled ten minutes, from which it was able to retain but 22.09 per cent of the iron. The diet was then changed to unboiled milk, from which it retained but 3.89 per cent of the iron. When milk, water, milk-sugar, and ferratin were given together the child retained but 23.39 per cent of the iron.

The most surprising results were, however, obtained with spinach; 55.99 per cent, 56.21 per cent, and 67.01 per cent of the iron of which was retained, as well as with the yolk of egg, which showed a retention of as high as 67.01 per cent and 67.65 per cent of its iron.

Among other conclusions, the experimenter states: "The natural compounds of the food are without doubt absorbed better, and, apparently, in a more usable form, by children than are the artificial products of iron."

Considering the frequent anemias of children and the ease with which even the very young child takes spinach, these confirmatory laboratory results are of particular value.

SEDGWICK.



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FEBRUARY 1, 1907

THE UNIVERSITY STATE HOSPITAL

For many years the teaching faculty in the Medical Department of the State University have looked forward to the time when a hospital could be erected on the grounds adjacent to the Medical School and campus.

The students have laboriously wandered from hospital to hospital in the Twin Cities to attend clinics, and much valuable time has been wasted by class after class, year after year.

The alumni are heartily in sympathy with the prospect of a clinical hospital conveniently located where cases may be studied day after day. A determined effort will be made this year to begin the erection of a hospital building. The nucleus for the structure is on hand. The Elliott estate provides the sum of one hundred and fifteen thousand dollars in cash, and will be available immediately on the acceptance of the gift by the legislature. The citizens of Minneapolis propose to donate a site for which \$50,000 has been pledged. The site is on the east side of the river, fronting on twenty acres of Park Board property, and

is made up of four blocks of ground, about ten acres in all, and with the obliteration of street lines twelve acres are assured. The outlook over the parkway, river, and river banks is unsurpassed. Fresh air, beautiful views, an abundance of room, all within five minutes' walk of the medical college, make an ideal spot for a hospital.

The hospital is to be strictly a charity and a clinical hospital for the benefit of the poor of the state who need medical and surgical treatment. It is expected that the state will provide the funds for maintenance, and that the various counties may send suitable cases without expense other than that needed for application, examination, and traveling. Profiting by the experiences of other states there will be no opportunities for imposition on the part of the well-to-do sick. Each case admitted must belong to the worthy poor; and no fees will be paid for medical or surgical attendance.

It will in no way interfere with other hospitals in the Twin Cities. It is expected, and there is every reason to believe, that men and women of wealth throughout the state will be glad to furnish the means for the erection of a memorial pavilion, thus building up a diversified hospital, embracing all clinical departments in medical instruction and enabling the student to broaden his clinical knowledge by practical opportunities. The burden upon the state will not be great, and will be more than counterbalanced by the great good the hospital will accomplish.

The faculty are practically unanimous in favor of the hospital near the campus.

The hospital is for the benefit of the sick poor and the education of the students, and all personal feeling has been put aside for the development of a University hospital.

The alumni can do a great deal by communicating with the senators and representatives, showing them the necessity of such a movement and giving them the benefit of their experiences during their former student days. Great credit is due to the Hon. J. T. Wyman, president of the Board of Regents, who was the active worker in securing the Elliott fund. Such enthusiasm is needed in building up a big university.

It has taken years to educate the Board of Regents to the needs of the Medical Department, and now that the movement is started it should not be allowed to slow down.

The University of Minnesota is about the eighth on the list of progressive universities, and we can make it even greater by concerted action.

PRESS ATTITUDE TOWARD SMALL-POX

The abandonment of quarantine for smallpox as outlined by a resolution adopted by the Minnesota State Board of Health has attracted the attention of the newspapers throughout the state.

Many of the papers have printed the editorial from *THE JOURNAL-LANCET*, others have abstracted notices from it, and some of the papers have commented editorially.

One paper called upon *THE JOURNAL-LANCET* to "come out and admit that two-thirds of the so-called smallpox which has cost the state so much in the last few years was not smallpox at all." The editor of this paper is evidently an antivaccinationist, and it will require some positive evidences to convince him that the past, as well as the present, epidemics, were genuine forms of smallpox.

Physicians are trying to educate the people to protect themselves from all forms of communicable diseases in order that all epidemics may be aborted or averted. It matters but little whether an epidemic is mild or severe, the public must be protected even though a few suffer temporary inconvenience. It would be absurd to deny the existence of smallpox now when there are many cases reported throughout the state and over many sections of this country. The existence of such cases is not heralded abroad or advertised in the newspapers, yet they exist, and vaccination in the cities is going on daily in schools and among employees in department stores and factories.

The history of epidemics shows very clearly that most communicable diseases are at certain times and seasons very mild, but that at any time there may be an outbreak of a severe form. The present experiences in Chicago to stamp out an unusual epidemic of scarlet fever, shows the necessity of prompt action on the part of the health authorities. An outburst of vicious diphtheria may come at any time. Fortunately, there is a well-tried remedy in the form of antitoxin; yet no one rebels when the physicians injects a serum into the diphtheria patient. It has saved thousands of lives yearly. Diphtheria is more feared by the public than any other contagion, but the people are educated to the use of antitoxin. What do they know about the manufacture of this popular and safe remedy? What do the people know about the preparation of vaccine virus? The old ideas prevail and are responsible for the present day opposition; the interchange of a virus from one person to an-

other, either one of whom may be the subject of some communicable disease; the preparation of a virus from a case who is in apparent health but creates a new disease in the vaccinated individual.

The old ideas are obsolete; the old methods of preparing the virus are equally so. Now the virus is obtained and prepared after most thorough and elaborate methods of laboratory investigation, elimination of all possible disease factors, and what is most important, with absolute cleanliness. This insures clean, healthy, and safe means for the prevention of smallpox epidemics. When a virus is prepared with such exactness and under the eye of skilled laboratory men, and is presented to the profession in sealed glass tubes, no one need fear the result of vaccination. The final application of the virus demands a clean skin and cleanliness on the part of the surgeon and surgical cleanliness on the part of the patient. If these details are carried out faithfully, there will soon be no need of quarantine hospitals, and vaccination will be free from old-time superstition and terrors. Then, too, the daily press will educate their readers on means for prevention and protection from the spreading of communicable diseases.

CORRESPONDENCE

PATHOLOGICAL TONSILS.

Minneapolis, January 25, 1907.

TO THE EDITOR:

That the question of proper treatment of pathological tonsils is an open one is evident from the various opinions expressed by writers in *THE JOURNAL-LANCET*.

My experience with over five thousand tonsils teaches me that—

First, complete extirpation of hypertrophied tonsils is almost never indicated, and is objectionable.

Second, that not all hypertrophied tonsils need partial removal, the need depending, as a rule, upon the extent of the hypertrophy.

Third, that the snare is the best instrument for partial removal.

Fourth, in the separation of the tonsil from the pillars lies the danger of subsequent complications.

Fifth, that tonsils very little enlarged but in which the crypts are flask-shaped, that is, those in which the mouths of the crypts are much smaller than the interiors and the mucous membranes thereof unhealthy, are the tonsils that most need proper treatment. It is in these unhealthy crypts that infection occurs and growth

of bacteria takes place more rapidly than in a culture tube in an incubator, subjecting the owner to local infection of the tonsil and peritonsillar tissues, systemic absorption of toxins, and general infection of the blood and lymph.

Sixth, that these tonsils are best treated by means other than removal, as a rule, the object being to restore drainage of, and a healthy condition to, the mucous membrane of the crypts. This is readily and thoroughly done in a way a little better than any other by the use of a pair of eye-enucleating scissors, and applications to the membranes of the crypts of rather strong solutions of iodine.

ROBT. A. CAMPBELL, M. D.

REPORTS OF SOCIETIES

HENNEPIN COUNTY SOCIETY

The annual meeting of the Hennepin County Society was held January 7th, Dr. F. C. Todd, the president, in the chair. It was moved and carried that the journals received by the library be placed in circulation under restrictions made by the Executive Committee. A letter concerning vital statistics was received from Dr. Cressy L. Wilbur, and upon motion the chair appointed a committee to carry out the work suggested.

The following were elected to membership:

Dr. J. G. Erickson, U. of M., 1892, Dr. H. G. Franzen, Northwestern, 1905, Dr. W. A. Angell, U. of M., 1895.

The following were nominated for membership: Dr. J. A. Sanford and Dr. Maude Stephens Slocumb.

Dr. R. E. Farr was called to the chair, and the president read his annual address, entitled, "The Hennepin County Medical Society—Retrospective and Prospective; and Fourth of July Accidents: What Can Be Accomplished in Minneapolis Toward Stopping Them?"

It was moved that the address be published in the Minneapolis papers.

The election of officers resulted as follows: President, Dr. J. E. Moore; vice-president, Dr. A. T. Mann; trustees, Drs. F. A. Knights and J. G. Cross; executive committee, Drs. Wm. R. Murray and F. A. Knights; censors, Drs. A. B. Cates and G. D. Head; delegates, Drs. F. C. Todd, A. E. Benjamin, J. M. Lewis, G. D. Haggard, and C. H. Hunter; alternates, Drs. C. H. Bradley, J. W. Bell, D. O. Thomas, A. T. Mann, and J. A. Crosby.

A mid-monthly meeting of the Hennepin County Society was held on January 21st. Dr. J. E. Moore, the president, in the chair, and

twenty-five members present. Dr. F. A. Dunsmoor presented specimens, one a diseased astragalus; the other specimen from a case of extra-uterine pregnancy.

Drs. J. G. Cross and C. A. McCollom called the attention of the members to, and urged their attendance upon, the Western Conference of Tuberculosis, beginning February 5.

The Minnesota State Association for the Relief and Prevention of Tuberculosis, February 6, and

The American Tuberculosis Exhibition, February 2d to 12th.

Dr. Leo. M. Crafts then read a paper with the title "The Influence of the Ductless Glands over Metabolism, with Illustrative Cases." The paper was discussed by Drs. F. A. Dunsmoor, C. H. Hunter, and A. E. Anderson. The discussion was closed by the essayist.

Dr. J. A. Watson read a paper on "Carcinoma of the Larynx," which was discussed by Drs. C. N. Spratt, J. E. Moore, F. A. Dunsmoor, E. S. Strout and, in closing, by the essayist.

C. H. BRADLEY, M. D., Secretary

MOWER COUNTY SOCIETY

The eighteenth quarterly meeting of the Mower County Society was held at the Fox Hotel, Austin, on January 9th. Dr. Clifford C. Leck, the vice-president, presiding.

A majority of the members were present, and also several visiting physicians and prominent laymen.

Dr. H. M. Bracken, of St. Paul, was the guest of the Society, and read an excellent paper on "The Milk Supply of Cities." Dr. W. F. Cobb followed with an interesting paper on "Proprietary Drugs and their Usefulness to the Physician." A free discussion by physicians and laymen followed both papers, Dr. Bracken especially being called upon for much valuable information. On motion of Dr. Cobb, the Society accorded Dr. Bracken a vote of thanks, after which the meeting adjourned.

F. W. SCHLUTZ, M.D., Secretary.

THE WOMAN'S MEDICAL CLUB

The Woman's Medical Club met in regular session in the small room of the medical library in the City Hall, Wednesday evening, January 16th, Dr. Mary S. Whetstone, the president, in the chair.

The paper of the evening was by Dr. F. L. S. Aldrich, of Anoka, on "Rational Dietetics." She takes the ground that man as an omnivorous animal should have the diet suited to

the needs of such an animal. Lean meats or beef, mutton, poultry, fish and game, together with white bread, should form two parts of a correct dietary, and fruits and vegetables, the third part. She believes fine white bread a more valuable food than whole wheat, graham, and those in use from similar flours. The physician should learn to rely upon personal observation, "Get near to Nature."

FLORENCE C. BAIER, M. D., Secretary.

NEWS ITEMS

Dr. E. E. Barnum, of Pine City, died last month, of pneumonia.

Dr. Frank J. Campbell, of Fargo, N. D., is at a St. Paul sanitarium for treatment.

Dr. J. Frank Corbett has been re-appointed bacteriologist for the Minneapolis Board of Health.

Dr. C. B. Lenont, of Virginia, has under consideration plans for building a hospital at Aurora next summer.

Dr. L. U. Iverson, of Christine, N. D., has returned from New York where he has been doing post-graduate work.

Dr. J. P. Humes, of Winnebago City, celebrated his seventieth birthday last month. He graduated at Rush forty years ago.

Dr. Oswald Leicht, of Winona, and Dr. H. F. Ward, of Hanska, have been appointed members of the State Board of Medical Examiners.

Dr. I. D. Webster, of Mankato, has been obliged to give up his practice on account of poor health. He will go south for the winter.

Dr. E. E. Holman, of Pine River, who was in St. Joseph's Hospital, at Brainerd for a month, has recovered sufficiently to return home.

Dr. Leda J. Stacy, who graduated at Rush in 1905, has begun practice at Rochester. She is the first regular woman physician to practice in that city.

A cottage for the treatment of tuberculosis patients has been built at the St. Peter State Hospital. It cost \$5,000 and will accommodate sixteen patients.

Immanuel Hospital, of Mankato, suffered a loss of about \$10,000 from fire last month. The loss is covered by insurance, but it is still a very unfortunate one.

Dr. W. S. Wood, of Blooming Prairie, who has spent a year and a half in Europe in special study, is devoting his time exclusively to eye, ear, nose, and throat work.

Dr. J. W. Robertson, of Litchfield, has been appointed local surgeon for the Great Northern and also local examiner of patients who seek admission for the Walker Sanitarium for tuberculosis.

Governor Johnson has re-appointed Dr. H. M. Bracken and Dr. Henry Hutchinson as members of the State Board of Health. Dr. A. J. Stone was appointed as a new member, taking the place of Dr. Rowe.

Dr. C. L. Francis, formerly of Mapleton, died last month in Oklahoma at the age of 83. Dr. Francis was one of the first practitioners in Minnesota, having come to the state in early pioneer days, and died highly respected and loved by a large circle of friends.

Dr. F. J. Bromberger, of Mapleton, has taken the practice of Dr. I. D. Webster, of Mankato, who retires on account of poor health. Dr. Bromberger is a graduate of the State University, and took an extended course in post-graduate work in Philadelphia.

Dr. P. C. Pilon, of Paynesville, has conducted for the past eight or nine years one of the most successful hospitals in the Northwest, and now that the demands for space have outgrown his building the citizens of Paynesville have made him a voluntary and generous offer of financial assistance in putting up a new and larger building.

Dr. J. W. Andrews, of Mankato, has been urgently requested to become a candidate for mayor of that city, and yielding to a plain duty has consented to do so. Dr. Andrews has the executive ability, the fearlessness, and the integrity to make an ideal mayor. Mankato could well afford to lay aside all political and personal considerations to obtain such a mayor.

POST-GRADUATE WORK

Doctor: If you want practical post-graduate work during the fine season in the delightful city, write for particulars, to New Orleans Polyclinic, post-graduate department of Tulane Medical College, P. O. Box 797.

FOR SALE

A drug-store complete: Medicines, oils, paints, wall paper, silver ware, jewelry, etc.; in fact, everything pertaining to a first-class drug-store. Situated in center of farming community. A splendid location. For terms, call or write P. O. Box 4, Preston, Minn.

FOR SALE

One static machine with x-ray attachment, by hand or motor power. Will sell cheap. Address P. O. Box 366, St. Cloud, Minn.

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SYMPTOMS AND DIAGNOSIS OF GALL-STONES, WITH REPORT OF CASES*

BY CHAS. G. SWENSON, M. D., C. M.

BRAHAM, MINN.

Perhaps there is no human ailment in which the descriptions of symptoms are as misleading as those of gall-stones according to a great many of the leading authorities, especially the older ones. By this I do not mean to criticize the eminent authors like Tyson or Osler, but I think the fact of the matter is that the study of gall-stones is a rather recent subject, and formerly only those cases have been recognized as such which manifested what might be called typical symptoms. In my short and rather limited experience, I have come to the conclusion that typical cases comprise but a very small percentage of all cases, and consequently we hear physicians making the statement that they have been practicing ten or fifteen years, as the case may be, and never have encountered a case of gall-stones. Though, as I have stated before, my experience has been short, I can truthfully say that I have had the opportunity of seeing a great many cases (either twenty-three or twenty-four), and with but one exception I have not seen any that manifested typical symptoms, such as periodical attacks of pain radiating from the apex of the ninth right rib to the right scapula, jaundice, tenderness in the region of the liver, etc., commonly described as indicative of the ailment under consideration.

By this statement it may occur that some of my cases have not been gall-stones as supposed; but 14 of the 24 cases mentioned have been operated on by myself, assisted by Doctor Sterner,

and although some of these 14 have been the most obscure cases, I have not in a single instance been disappointed in not finding the offending particles looked for. In all of the remaining 10, I am confident that my diagnosis is correct. Though I think I can explain myself better by giving a brief history of some of the cases operated on, I will mention some of the most salient points found according to my own observation, and I will try to group them in order, beginning with what may be considered the most common and typical.

In a great majority of cases the patient will be a female over 40 years of age, and will nourished. This or any of the following, is of course not always the case, but by a combination of several of the points stated, I think a diagnosis can be made. The patient will complain of a dull, aching pain in the epigastric region, sometimes aggravated after eating, though present more or less constantly. Further than this she will complain of what she calls heartburn, sometimes vomiting and at other times having only been nauseated during the morning or one or two hours after eating. Other symptoms complained of are distention, bad taste in the mouth, and palpitation of the heart (perhaps due to gaseous distention in the stomach). On inquiry she will admit that the pains generally start in the epigastric region radiating toward the back, and frequently towards the left hypochondriac region, left scapula, and left shoulder, even extending down the left arm. She generally denies ever having any jaundice, but on questioning her closely she may

*Read before the Central Minnesota Medical Association, August 8, 1906.

admit having had the white of her eye look somewhat yellow at times when she was not feeling well, and perhaps having noticed that her urine was unusually colored, and frequently she will recall having had an itching of the skin at sometime after being unusually ill. This, I think, is a very important point to ascertain, for frequently, though there is no apparent jaundice, there is enough bile absorbed into the circulation to cause the itching sensation. As stated, patients will complain of feeling worse after eating, and on close inquiry they will be found to have had the same distress, no matter what they eat, even a glass of cold or warm water will aggravate the condition, while at other times when the attack is more subacute they can eat any heavy food and not feel any the worse. This point will be further brought out in connection with the diagnosis. The patient will perhaps have had one or more slight attacks of chills, or more commonly a few attacks of night-sweats.

On physical examination, the most striking feature is the tenderness which, if present at all, will be found to be most pronounced at a point midway between the umbilicus and the end of the 9th right rib, or slightly to the left and above this point. Frequently, some tenderness will be found on either one side or the other of the 10th, 11th, and 12th dorsal vertebræ. If there is no tenderness the patient will perhaps mention that at sometime there has been soreness in that neighborhood. Enlargement of the liver or gall-bladder is seldom present. On examination of the urine, bile will be found present in a very few cases, although it is perhaps present at sometime in most cases.

As to the diagnosis, perhaps the conditions which gall-stones are mostly mistaken for are gastralgia and chronic gastritis. The subject of gastralgia is generally some more or less feeble and neurotic woman, perhaps from 15 to 40 years old, generally poorly nourished and subject to neuralgia in other parts of the body. The attacks will not be aggravated by the taking of food. There is no jaundice, no bile in the urine, no chills, or night-sweats, unless from some other accompanying cause. Perhaps there is no tenderness, or, if present, it will be diffused over the whole area of the stomach. The urine is generally abundant and pale in color, there is no gaseous distention, and frequently there are symptoms of hysteria present. As a last resort an exploratory incision is worth while.

In chronic gastritis the most striking difference is that in this condition, the patient will be in distress shortly after eating, especially such food as is ordinarily contra-indicated in this condition, while in gall-stones the distress is pronounced after eating the mildest kind of food,

and yet at other times they may partake of food and not feel any the worse, while, if gastritis were the trouble, it would make them desperately ill. In gastritis, the symptoms are seldom so severe as in gall-stones. The tenderness, if present, is diffuse over the whole region of the stomach, the pain seldom radiating towards the back or shoulder.

Another condition which might be mistaken for gall-stones is gastric ulcer. This is generally found in young and anemic girls. The pain in this condition frequently comes on immediately after taking food, but is just as liable to occur when the stomach is empty. A change of position of the patient may aggravate or lessen the suffering. By giving a dose of sodium bicarbonate the pain is frequently relieved, which is never the case in gall-stones. By firm pressure in the epigastric region the suffering may be diminished, while in gall-stones it is aggravated. Generally the point of maximum tenderness is higher up and more to the left than in gall-stones. Last, but most important, is the vomiting of blood. If this occurs a positive differential diagnosis may be made. Should the bloody vomit not be present, it is always important to ascertain the condition of the stools, which, if hemorrhage has been present, will have the characteristic tarry appearance.

Perhaps one of the most difficult conditions to differentiate is gastric carcinoma. In this condition we generally have the characteristic cachexia with the waxy color of the skin, which may be differentiated from jaundice by not finding any bile in the urine. The history of the trouble is generally shorter, the patient generally losing in weight, which is not characteristic of gall-stones. As the only hope of the patient in this condition is an operation, it does not make so very much difference if the differential diagnosis is not made. The only point which is well to bear in mind in case of doubt, is to make the incision closer to the median line, and by doing so a part of the stomach may be removed without making more than one opening, or the gall-bladder may be opened and anchored should gall-stones be found.

The following is the history of seven consecutive cases operated on. For the sake of brevity I have mentioned simply the points that are of interest in connection with the subject under consideration:

CASES

CASE 8.—Female, 46 years old; married; weight about 175 lbs.

Family History. Negative.

Personal History. Negative until 6 years ago when she had an attack of pneumonia, which ran the usual course. About two months after recovery she began

to suffer with morning vomiting and eructation of sour fluids. For a while she thought herself pregnant, but this was not the case. This distress lasted for four or five weeks when it entirely disappeared to return again in about one year, and then it was accompanied by some epigastric pain and distention, which she has had more or less ever since, but it was never severe enough to confine her to the bed for more than half a day at a time. The condition would always be aggravated by any kind of food, but when feeling fairly well she could eat the most indigestible substances without any aggravations of the distress. She never had any noticeable jaundice, never noticed any change in the color of the urine, never had any itching, and never vomited except during the first attack, but has felt nauseated at times. Had one or two pronounced chills and thought she has had some night-sweats. She claimed she had taken a barrel of medicine, patent and otherwise, without any relief. (This is somewhat of an important point, for if the patient has been treated properly for chronic gastritis, and this being the condition present, there should at least be temporary improvement.) Had it been gastric carcinoma, the patient would not have lived for six years. On physical examination, the heart, lungs, and kidneys were normal. No enlargement of liver. Tenderness in epigastric region, the maximum of which was located about one-half inch to the right of a point midway between the umbilicus and xiphoid. Pain radiating to the left and to the left scapula; no tenderness around lower dorsal vertebrae.

Diagnosis. Gall-stones.

Operated on; two stones removed about the size of a butternut. Patient made an uneventful recovery.

CASE 9.—Female, 35 years old; weight about 200 lbs.; married.

Family History. Negative.

Personal History. Negative until three years ago when she developed an attack of salpingitis of the left tube (perhaps specific). From this condition she recovered without operation. About two months after recovery she developed a sudden attack of very severe pain in the epigastric region. Dr. Lyons, their family physician, was called and diagnosed the case gall-stones. This attack lasted about thirty-six hours when it suddenly left without causing any jaundice. Patient felt well for one and one-half years when she was confined, instruments being used. About a month after delivery she developed slight symptoms of tubal trouble, but recovered from this after being confined to her bed for about one week. Two weeks after recovery from above, she developed a second attack of epigastric pain, coming on without any apparent cause. This time I was called, and found the patient suffering severe agony, the pain being centered in the region of the gall-bladder and radiating towards the right scapula. no jaundice, slightly nauseated, no bile in urine. After giving her two hypodermics, an hour apart, of morphine, $\frac{1}{4}$ gr., and atropine 1-100 gr., the pain ceased, but about 6 a. m. (this being about 8 p. m.) the following morning it recurred, when morphine, $\frac{1}{4}$ gr., and atropine, 1-100 gr., was sufficient to check the same, and by the following evening she was entirely well. I advised an operation, but she preferred to have this postponed until she was through nursing the baby. She felt well for six months when a third attack came on. This time I was not called until the third day when she had developed a typical jaundice, the urine was heavily loaded with bile and the pain was the same as during second attack. She submitted to an operation on fourth day after beginning of attack. On opening the abdomen the gall-bladder was found to be quite distended, holding about one and one-half pints

of bile, and a number of stones were felt, one being lodged in the common duct. The gall-bladder and duct were opened in the usual way, and 188 stones were removed, all about the size of a pea. The patient made an uneventful recovery. The above might be considered a typical case.

CASE 10.—Female; weight 195 lbs.; widowed; age 50.

Family History. Negative.

Personal History. Negative until about sixteen years ago, when she developed epigastric pains accompanied by vomiting. At first the attacks would manifest themselves only every six or eight months. This being aggravated especially by excitement or some mental emotion, such as reading an excitable book, lasted until about five years after the first attack, when her husband committed suicide. This aggravated the condition very greatly, and after it she had been more or less of a constant sufferer. She would always feel distressed after eating a full meal, the pain always being diffused over the region of the stomach, sometimes radiating towards the left scapula. There was no jaundice, and no bile in the urine to her knowledge. She consulted various physicians, both at home and in Europe, and invariably the diagnosis was gastralgia or hysterics. I was called in during one of her severe attacks about one year ago. I found a point of severe tenderness midway between the umbilicus and 9th rib, tenderness to the right of the 11th and 12th dorsal vertebrae, pain over region of stomach, but no radiation, nausea and vomiting present, no jaundice, no bile in urine, has had one chill during this attack and several previously.

Diagnosis. The diagnosis was gall-stones, over which she became both surprised and indignant. I advised an operation, but she refused to submit until she was sure it was gall-stones, which she did not think it was for she had been reading some medical books on that subject and knew she did not have the symptoms described, so, to settle the argument, I referred her to Dr. Mayo. She went to Rochester and had my diagnosis confirmed, and one month later she returned and was operated on by myself, assisted by Dr. Sterner of Cambridge and Dr. Anderson of Rush City. The gall-bladder was found greatly thickened and contracted down on one stone about the size of a hen's egg. A number of smaller stones were partly adherent to the larger one. No stone in duct. Patient got along nicely for two weeks, when, without permission, she made a hearty meal of cornmeal mush, sugar, and cream, which caused her to develop a bad attack of vomiting, which lasted for nearly three days, causing a great increase in the amount of bile drained—would drain about one gallon during the night. After trying various anti-emetic remedies without result, I finally began giving her teaspoonful doses of champagne when she stopped vomiting. Whether this was due to the champagne or not I do not know, but I believe it worth trying in cases of persistent vomiting. After this attack the patient made a complete recovery.

CASE 11.—Female; weight about 160 lbs.; age, 22; single.

Family History. Negative.

Personal History. Had measles when a child. Shortly after this she developed an arthritis deformans in all the phalangeal joints, which are still deformed to such an extent that she is unable to straighten the fingers. About two or three years ago she developed severe pains in the back in the region of the last dorsal vertebra; no jaundice, no vomiting, no chills, no pain in region of stomach or epigastric region. Pain would last from a few hours to a few days, coming on at in-

tervals of one to three months. I attended the patient during two of these attacks, the first lasting about four days, the second about two hours. During the last attack it looked as though the sclera might be slightly jaundiced, though it was hard to tell whether this was the condition or whether it was simply hyperemic. No bile in urine.

Diagnosis. Gall-stones. Operation was submitted to. Twenty-three typical mulberry gall-stones were removed. The patient made an uneventful recovery.

This case is interesting on account of the location of the pain and the age of the patient.

CASE 12.—Male; aged 44; weight about 170 lbs.

Family History. Negative.

Personal History. Healthy and rugged until four years ago, when he developed severe abdominal pains in the region of the stomach, nausea, and vomiting lasting about two days.

These attacks had come on once every year for four years. Had seen one physician during first attack. No diagnosis made. At this time there was no jaundice, no discoloration of urine to patient's knowledge, but during the second attack there was some itching of the skin. At no attack had there been any pain in the back or shoulder. During his last illness I was called in after he had suffered for four days, found patient in profuse perspiration; pulse 110; rectal temperature 97°; abdomen distended; severely jaundiced; urine loaded with bile; severe pain and tenderness all over abdomen. The man had the appearance of being in a dying condition. After giving a hypodermic injection of morphine, $\frac{1}{4}$ gr., together with stimulants and applying external heat, I called Dr. Sterner in consultation, and we both came to the conclusion that the gall-bladder was ruptured causing the shock and symptoms of general peritonitis. Operation was advised and done at once. Gall-bladder was found distended with bile, but no stones present in bladder, but one was found lodged in the diverticulum emptying into the duodenum. Extensive adhesions were found all through the abdominal cavity. By gently pressing on this stone, it slipped through into the duodenum easily, and as the gall-bladder emptied itself at once, it was not opened.

The incision was extended slightly, and the appendix sought for. This was found to be gangrenous, and in it was lodged a gall-stone about the size of a hazel-nut. The appendix was removed in the usual manner; the wound was closed leaving a liberal drain. The patient never rallied satisfactorily, and died from shock 24 hours after operation.

Could the exact condition of things have been ascertained before operation, and the patient placed on Ochsner's treatment until the inflammation had become more circumscribed, he might have had a better chance for recovery.

CASE 13.—Female; aged about 53; weight about 140 lbs.

Family History. Negative.

Personal History. Always well until fourteen years ago when she developed pains in region of the stomach. Heart-burn, but no vomiting, no jaundice, nor any discoloration of urine to her knowledge. Pains would come on at times after eating, no matter what the diet was, and at other times she could partake of any kind of food without feeling distressed. Pains would radiate towards left side, but seldom towards scapula. On examination no tenderness was found except on deep pressure at the usual point midway between umbilicus and 9th right rib. On examination of heart a pronounced mitral regurgitation was found. No jaundice present, no bile in urine, but patient had a sort of a muddy complexion.

All physicians who had attended her had made a diagnosis of some sort of stomach trouble or hysteria, and treatment had been of no avail. One had told her she suffered from uterine fibroma.

Diagnosis. Gall-stones. Operation submitted to. Seven stones the size of a butternut removed, together with a number of small ones. Bile found to be in a tar-like condition. A great number of adhesions were broken up, and though careful I did not feel sure but what the peritoneum had become soiled with bile, so left a small drain into peritoneal cavity, which was removed on the third day. The patient improved rapidly for one week, at the end of which her heart became irregular and breathing somewhat difficult, together with the expectoration of bloody sputum. No temperature present. Position was changed as much as possible, and strychnine and digitalis given, and this condition gradually improved though she still has some irregularity of heart (eight weeks after operation). Biliary fistula closed in five weeks, but has re-opened and again drains slightly after being closed for three weeks.

CASE 14.—Female; married; aged 63; weight 175 lbs.

Family History. Two sisters have suffered with carcinoma of breast.

Personal History. Always well and rugged until two years ago, when she experienced some distress after eating, heart-burn, and what she called a dull and heavy pain in region of the stomach; no nausea, no jaundice, no discoloration of urine, but had a bad taste in the mouth. She called on me after having the complaint for about two months. I gave her the usual treatment for chronic gastritis, and told her to call again in a month. This she did not do, but after experiencing no improvement called on another physician, and he outlined about the same treatment as I had given and which she followed out, but to no benefit. About four weeks ago she called at my office for the second time. On examination I found some tenderness midway between the umbilicus and 9th right rib. Heart, kidneys, and lungs normal; no bile in the urine; no jaundice. Pain complained of was over region of stomach radiating towards the left side and once or twice towards left scapula. She claimed she had lost somewhat in weight. This, together with the family history, led me to suspect cancer of the stomach or gall bladder, though I was under the impression she had not lost enough in weight to have a carcinoma of two years' duration.

Diagnosis. Gall-stone or cancer. Operated on three weeks ago today. Gall-stones found, the stomach being in a normal condition. Recovered very rapidly, and though biliary fistula is still draining slightly she went home twelve days after operation and rides a distance of four miles every morning to come to my office to have the dressings changed.

"RHEUMATISM" AND ITS TREATMENT

F. J. Walter declares that the various infections will account for every form of so-called "rheumatism," except muscular, and that is an intoxication. This intoxication accompanies or precedes most articular, and some nerve, infections. Intelligent treatment consists of prophylaxis, with attention to social conditions, dietetics, exercise, or rest, as indicated, elimination by proper baths, fresh air, the right coöperative mental attitude, and in some cases climate. A sedentary life, and also great muscular fatigue, should be avoided, the latter being a cause of muscular pains in children and working men. Alkaline waters and drugs, although greatly abused, are very important as antacids and antiseptics to the intestines.—Medical Record.

MITRAL LESIONS OF ENDOCARDITIS*

By G. J. SCHOTTLER, M. D.

DENTER, MINN.

This disease was first recognized as distinct and separate by Bouillaud, who published an account of it in 1824. In both its acute and chronic forms it is an inflammation mostly confined to the valves. When the lining membrane of the cavity of the heart is affected it is usually in the apex of the left ventricle.

Etiology.—Heredity must be recognized, the disease being more frequent in some families in succeeding generations than in others. It is most common in persons under 30 or 40 years of age. Acute endocarditis must be regarded as infective in origin, its most frequent cause being acute rheumatism (about 20 per cent of all cases), especially so in children and youths where its permanent effect on the endocardium is more serious than in adults.

As a causative factor rheumatism is closely followed by the infectious fevers, gout, diabetes, chorea, alcoholism, Bright's disease, syphilis, tuberculosis, and previous valvular disease.

The severity varies from cases so mild as to remain unrecognized until valvular defects develop, to cases so severe that treatment is of no avail.

No case is without bacterial infection. Organisms have been discovered in every form of acute endocardial vegetation. Pyogenic organisms are most frequent, but bacilli and cocci are also found. In most instances only one organism is found. In case of embolism resulting, the same organism is always found in both primary and secondary lesion. Organisms in the blood are causative, both directly and by embolism in the substance of the endocardium and by the toxins produced as result of organisms.

Long-continued muscular strain and depreciation of general health predispose to attacks.

Morbid Anatomy.—The disease occurs much more frequently in the left side of the heart; in fact, nearly all cases, except those occurring in intra-uterine life, are in the left side of the heart. The cases occurring during fetal life are of the right side. This is probably due to the higher blood pressure within the cavities, and the fact that the mitral valve is more abundantly supplied with blood-vessels than other valves, thus giving more opportunity for embolism in its substance.

The valves are affected as follows: first, mitral,

one-half to three-quarters of all cases; then aortic, then tricuspid, and, last, pulmonary. In septic cases the right side is more frequently affected, probably due to the septic material in the general circulation first reaching the right side of the heart. Any part of the endocardium is subject to attacks of inflammation, but the vast majority of the cases are valvular, and on the surface exposed to the blood-stream, namely, the auricular surface of the venous and the ventricular surface of the arterial valves. The deposits in all cases occur at the area of maximum contact of the valves.

There may be cloudy swelling, thickening, sclerosis, white or grey in tint. These deposits, as recovery takes place, may become organized, or ulceration may produce perforation of a valve. Fragments of deposits or vegetations are liable to separate, the resulting emboli producing infarcts and pyemic abscess.

In left-sided endocarditis the kidney, spleen, brain and liver suffer mostly in the order named. In right-sided endocarditis the lungs.

In the subacute and chronic stages of the disease these processes of deposition, vegetation and sclerosis are much more gradual. The vegetations sometimes containing deposits of lime salts are firm, more abundant, more permanent forming rigid adhesions of cusps; and tissue loss is less.

Reparative processes are marked. The lesions of chronic endocarditis constitute the large group of chronic valvular affections. There occur deformity of valves with or without vegetations, producing the various effects of obstruction or incompetence.

Symptoms.—Endocarditis frequently develops insidiously, the condition being discovered not because of marked special symptoms, but because expected and looked for during some causative disease.

The chronic form of the disease sometimes exists for years, unsuspected even, until some other process, as an excessive demand upon the heart or an infectious or rheumatic attack makes manifest a lesion latent previously.

Endocarditis of the walls of the heart rarely shows signs, but affections of the valves or their attachments, if seriously interfering with the action of the heart, are quickly manifested.

In acute endocarditis there is embarrassed, hurried, and shallow respiration, short cough, uneasiness about the heart, anxious, dusky countenance.

*Read before the Mower County Medical Society, July 11, 1906.

The pulse is frequent, feeble, and sometimes irregular. The patient is restless. The temperature rises one or two degrees above that of the causative disease. The tongue is dry and red.

In the severe mycotic or septic form we find, in the course of a pneumonia or other etiological factor, chills, followed by high fever and profuse perspiration, as the cardinal symptoms, along with symptoms and signs indicative of embolic processes.

Physical Signs.—During development and the acute stage of the disease the signs are unreliable, faint, or wanting. Inspection sometimes reveals tumultuous action with palpitation with enlarged area of impact, but sometimes the opposite conditions are observed.

Auscultation generally reveals a soft systolic murmur. The second sound at the base may be doubled from incoördination of the two sides of the heart. The murmurs are most frequent at the apex. Percussion in uncomplicated cases gives no information.

Diagnosis.—This must be based on physical signs and subjective symptoms, such as chills with fever, anxiety, pain in the region of the heart, palpitation sometimes, with headache, insomnia, and dyspnea. Sometimes there is also a change of posture from recumbent to semi-recumbent to secure relief from pain and distress, and with these some etiological factor. If any of the above symptoms appear in the course of a causative disease, and the signs are found over a heart, whose sounds were previously normal, we reasonably suspect endocardial inflammation; however, we must not confuse hemic murmurs with those caused by endocarditis or structural changes. We can differentiate pericardial friction-sounds by their more superficial situation over the body of the heart, their to-and-fro rhythm not connected with the heart sounds, their failure of conduction beyond the precordia, and their greater intensity on pressure or with the patient leaning forward. Pericardial friction-sounds are loudest along the border of the sternum near the 4th or 5th left costal cartilages.

Endocardial murmurs are loudest in the region of the apex and are diffused beyond the precordia.

Prognosis.—Although no case of endocarditis can be considered as trivial, still acute rheumatic endocarditis usually runs its course in from two to four weeks, and is not often fatal if uncomplicated, but usually leaves the patient with a heart more or less damaged and predisposed to subsequent attacks.

The murmurs may decrease and sometimes disappear, but in 25 per cent of the cases permanent mitral lesions remain, leading to hypertrophy for compensation, which usually remains sufficient for

years. Antecedent depreciation of health, co-existence of pericarditis, myocarditis, or pulmonary disease, typhoid symptoms, and the symptoms and signs of embolism or pyemic abscesses, make the prognosis correspondingly grave. Pregnancy and the puerperium exercise a very unfavorable influence.

Treatment.—This resolves itself into treatment of the underlying causative malady and relief of symptoms on the part of the heart. Absolute rest is the keynote until convalescence is well established.

Little medication is required, and over-stimulation may do irreparable damage. In the inception of the attack a full dose of quinine may abort it. Iron and quinine are of value later. For fever and cardiac excitability small doses of aconitine and veratrine, and a saline flushing of the intestinal tract.

The patient should be in a comfortable, well ventilated room, and lightly but warmly clad, that the skin and lungs may do their work well.

The diet should be light and easily assimilated. Milk is among the best foods. We can substitute malted milk, oatmeal, and other similar foods. We may frequently restrict the diet very much for a few days, with benefit to the patient.

The patient should be protected from intrusion.

For dyspnea and depression, stimulants are cautiously given, ether in doses of 5 to 10 drops, Hoffman's anodyne 10 to 30 minims, or coffee or tea. Strychnine and digitalis should be given very cautiously on account of the danger of over-stimulation. Sinapisms over precordia, morphine for relief of pain.

Sequelae.—Chronic endocarditis, "valvular disease of the heart."

The non-ulcerative inflammation becomes protracted. Cell-infiltration and hyperplasia occur, followed by organization and contraction, especially at the base of the vegetations. The thickened tissues become atheromatous in spots and sometimes undergo calcification.

The organization and retraction cause incompetence of the valves.

Mitral Lesions.—These are more frequent in youth and the prime of life, and perhaps more frequent in men than in women.

The free edge of the valve being continuous, the contraction narrows the orifice in varying degrees, sometimes to a mere slit. The chordæ tendinæ also are involved in the process of thickening and retraction, and may become agglutinated into short fibrous bands, drawing down the contracted mitral margin until it forms a funnel shaped opening into the cavity of the ventricle.

Mitral Obstruction.—Mitral obstruction sometimes occurs as an uncombined form of valvular

disease in young persons, especially in women, but is more commonly combined with mitral insufficiency. It is never caused by functional disorders.

Compensation is often good for many years, and when it fails it causes irregularity of heart-action, marked pulmonary congestion, permanent dyspnea, and even orthopnea, edema, apoplexy, or sudden cardiac failure. The pulse is soft, and small, and has a purring thrill at the apex. The left auricle is enlarged, and the ventricle is not hypertrophied. There is a mitral presystolic murmur, preceding the first sound, which is of longer duration than other murmurs, with its maximum intensity about half an inch above the apex-beat and louder with the patient erect. It is not transmitted to the left of the apex, nor is it heard in the arteries of the neck or behind.

Mitral Insufficiency or Regurgitation.—This is

the most frequent of uncombined forms of valvular disease. It causes congestion of the lungs, liver, and kidneys, and is accompanied by a compressible, irregular pulse, enlargement of the left auricle and right ventricle, and a soft blowing systolic murmur, accompanying or replacing the first sound of the heart. This murmur is loudest at the apex, is transmitted to the left, and is often heard near the 6th and 7th dorsal vertebrae, but not in the arteries of the neck. The pulmonic second sound is intensified. Cardiac asthma is usually the first symptom.

The prognosis is fairly good, compensation usually being good. The danger lies in failure of compensation. Only about 2 per cent of cases die suddenly. Chronic valvular lesions are not curable. Their duration and fatality vary widely in different cases.

THE TUBERCULOSIS PROBLEM*

BY W. H. AURAND, M. D.

MINNEAPOLIS

Prior to 1882, when Koch gave to the world his wonderful discovery of the tubercle bacillus, tuberculosis was considered to be an hereditary disease, and it was taken for granted that if the parents died of tuberculosis the children would be likely to take the disease.

Great strides have been made in the way of decreased mortality in the last ten years, but great as has been the advance along this line the mortality-rate from pulmonary tuberculosis exceeds that of any other disease save pneumonia. In Chicago the death-rate from pulmonary tuberculosis per ten thousand population, since 1856, has been as follows: 1856 to 1865, 26.72; 1866 to 1875, 17.50; 1876 to 1885, 17.41; 1886 to 1895, 17.66; 1896 to 1905, 15.31. This shows a decrease of 11.41 in the last forty years. Pneumonia, the captain of death, shows a mortality-rate of 18.72 for the last decade, and only 6.72 for the decade of 1856-65. Pneumonia, then, is increasing in prevalence with modern civilization, while to some extent we are controlling tuberculosis.

There is absolutely no question about the curability of this dreaded disease. The mainstays in treatment are fresh air all the time, nourishing food, and rest.

Are we doing the best we can for these unfortunate patients? Can we not be still more

radical and persistent in our hygienic efforts to stop the spread of this disease? The great majority of cases of pulmonary tuberculosis are contracted through the medium of the inspired air. Can we not do more to keep the air free from tubercle bacilli? In the first place we must get the confidence of the patient and assure him that his disease is not hopeless, but that recovery depends to a large extent upon the manner in which he conducts himself and carries out the orders of his physician. We must explain the disease in all its phases to our patient: tell him that he has pulmonary tuberculosis, and warn him as to the dangers of exposing others. What, then, should we do with the patient? Shall we say to him that he can't live here any longer and send him off among strangers in a strange land, where his homesickness will only assist in lowering his vitality? No. We tell him to sleep out of doors at night, and stay out of doors all day—live out in the air all the time—we tell him to rest and eat milk and cream and eggs of the best quality. We cannot cure these patients by our own efforts, nor with medicine—the only medicine that counts is fresh air and good food. There are many people in our town to-day who owe their lives to this plan of treatment diligently carried out and who have cured themselves here.

Not long ago a father brought to me his son,

*President's Address. Read before the Minneapolis Medical Club, September 19, 1906.

who was suffering with pulmonary tuberculosis. The father feared that he had the disease, and only wanted his opinion verified. After examining the young man carefully I told the father that he had the disease, and told him what course to pursue. He replied that it didn't scare him any, for he had been given up to die forty years ago, but he cured himself by living on the plains in the open air, and he could cure his son. This man had the correct idea, and it is our duty to so educate the public in this matter, that they will no longer fear this disease, and lose hope when they have it. The medical profession has done much to decrease the mortality from pulmonary tuberculosis, but we must do much more. We must diagnose the cases early, for it is here in the early cases that we are sure to get the most prompt results. Is there not a pretubercular stage that we, as physicians, should recognize, and put forth our efforts to prevent probable development of tuberculosis? We must learn that when a patient comes to us complaining of malaise, loss of weight and appetite, more or less anemia, and a general debilitated condition, and, if a female, of amenorrhea for a few months, we should be on our guard and give the patient a most thorough chest-examination, even if no cough or other subjective symptoms exist. In this way, and this way only, can we in the future decrease and eventually blot out this, the white plague.

I wish to say a few words in regard to the diagnostic use of tuberculin. Tuberculin is a 50 per cent glycerine extract of the living culture of the tubercle bacillus. It is prepared by growing tubercle bacilli in a 1 per cent beef-extract solution or meat infusion in flat-bottomed flasks at a temperature of 38° C. for six or eight weeks. The contents of a number of these flasks are then put into a dish and evaporated to one-tenth its original volume. This heat kills all the bacilli. The liquid is then passed through a porcelain filter, and finally sufficient glycerine is added to make a 40 to 50 per cent solution. Thus prepared it appears as a clear, brownish-colored liquid, which resists decomposition for months.

The majority of observers use Koch's tuberculin, diluted with distilled water to such strength that 1 cc. of the mixture represents 1 mgm. of the tuberculin, enough carbolic acid being added to prevent decomposition.

The only preparation the writer has used is Bureau tuberculin, which is a 10 per cent solution of Koch's tuberculin, and is the tuberculin prepared by the Bureau of Animal Industry at Washington. There is a decided advantage in using the Bureau tuberculin. It is readily obtained, comes already diluted, and can be secured fresh at a very small cost.

REACTION

An individual is said to react to tuberculin when he develops within twenty-four hours following the injection a rise in temperature of one and one-half to two or more above the mean course of the temperature previous to the injection. Other symptoms are headache, malaise, anorexia, pain at point of injection, some temperature rise, but they are not the distinctive features of the reaction.

A mild reaction is one in which in a large series of cases, the patient will exhibit a rise of temperature of only one degree or less within twenty-four hours following the injection. Delayed reactions are those in which after twenty-four hours a rise of one or two degrees take place. The significance of these mild or delayed reactions is as yet imperfectly understood. They are probably true reactions. They occur in those cases in which the dose of tuberculin is small compared with the body weight of the patient injected.

EFFECT OF TUBERCULIN INJECTIONS

Tuberculin produces little or no disturbance when injected into a healthy individual, unless given in very large doses. In persons infected with tubercle bacilli it produces a train of well marked symptoms. In about six hours after the injection the patient will usually feel chilly, and if the temperature is taken a rise of two or three degrees will usually be noticed. About this time there will be an aching of the limbs, headache, and pain at the point of injection.

Sibilant and moist râles are usually heard in increased numbers in the involved areas of the lungs, and sometimes in areas where no abnormal sounds could be detected prior to the injection. The spleen may become enlarged. Attacks of diarrhea may supervene, an increased quantity of low-sp.-gr. urine sometimes is passed. In some cases albumin may be found in the urine. An increase in the number of leucocytes will appear in the circulating blood in some of the cases, but not in all, as has heretofore been supposed, since cases have been observed by Dr. Head in which, with a pure tubercular infection, no leucocytosis usually appears, while in those cases suffering with a mixed infection of tubercular bacilli and staphylococci, a leucocytosis will result following the injection of tuberculin.

DOSAGE

In most cases the dose usually given is one-tenth of a cc. of the Bureau tuberculin to an able-bodied adult man or woman. This represents 10 mgms. of Koch's tuberculin. As high as 24 mgms. and as low as 1 mgm. has been given. One can give so small a dose as to produce no

reaction, or so large a one as to produce a violent or even dangerous reaction. If we are dealing with a frail patient it is best not to give more than one-twentieth or one-thirtieth of a cc. Patients who are very anemic and markedly emaciated, or in whom the disease is far advanced, should not be injected, as they frequently go downhill rapidly after such injections.

I wish to cite one case of pleurisy with effusion, which, after he had fairly well recovered and had been aspirated several times, the writer injected with one-tenth of a cc. of Koch's tuberculin. The history of the case is as follows: Mr. L. L., age 23, American by birth, about a year ago began to have pain in left side of chest and shoulder, got out of breath easily at times, but had no cough. Last spring, the pain began to get worse with loss of appetite; lost 20 lbs. in weight, was in bed for three months, during which time, the chest was aspirated three times, and large quantities of serous fluid taken out. Since then he has

been at work until entering the hospital. About two weeks ago the pain in the side began to get worse. The pain has always been increased by deep breathing. At 12 o'clock this patient was given hypodermically between the scapulae an injection of one-tenth cc. of Bureau tuberculin. At this time the temperature was 99.8°, and pulse 99; at 6:00 p. m. temperature was 101°, pulse 96; at 8:00 p. m. temperature was 103.4°, pulse 102; at 10:00 p. m. temperature was 102°, pulse 100; at 12:00 p. m. temperature was 100.4°, pulse 96; at 2:00 a. m. temperature 99.80°, pulse 98.

This case serves to show the typical reaction following injection of tuberculin. This patient left the hospital and went to work in a few days, and has worked ever since. Says he feels better than he has for years.

I am very much indebted to Dr. Head, who has done considerable work with tuberculin, for much of the information concerning its use.

RETROVERSION OF THE UTERUS*

By D. N. JONES, M. D.

GAYLORD, MINN.

In assuming the duties of your presiding officer for the ensuing year, I wish to most heartily thank you for the distinguished honor which you have seen fit to confer upon me, and I wish to congratulate you upon the status of this society. From its origin to the present time, this society has steadily increased in membership and grown in influence until, at the present time, its members are scattered over five or more counties in the central western part of this state, and exert an untold influence for the advancement of medical science, the alleviation of suffering humanity, and the prolongation of human life. It shall ever be the writer's wish that this society shall continue to flourish and that its influence shall be for good and the upbuilding of our profession, and that its influence shall be felt throughout this great commonwealth.

As title of this paper I have selected "Retroversion of the Uterus," and in discussing this subject, I shall, at times, allude to retroflexions of the uterus, as the two dislocations are in many respects closely associated, and what is said of one will in many instances apply to the other.

I have selected this subject for several reasons. It is one of the most important conditions which the gynecologist and the family physician

are called upon to remedy in the treatment of female complaints. It is important because it is much more frequent than any other form of uterine dislocation, because it produces a long train of symptoms which frequently end in invalidism, and because it is too frequently ignored, if discovered. In this paper, I shall endeavor to touch only upon the material points of this subject. A detailed discussion will be out of the question on account of the immensity of the subject.

By *retroversion*, we mean that the uterus turns upon its transverse axis and tilts the fundus backwards and the cervix forward.

A *retroflexion* is a bending of the organ backwards upon itself so that the fundus points backward while the cervix, theoretically, remains in its normal position.

In order to diagnose and treat dislocations of the uterus intelligently, it is essential to be familiar with the anatomy of the female pelvis.

The uterus, normally located, is suspended in the pelvis with the fundus lying a fraction of an inch below a line drawn from the promontory of the sacrum to the top of the symphysis pubis. The body inclines forward on an angle of about 45 degrees with the horizon. The cervix lies within an inch and a half of the sacrum. The body of the uterus projects from the top of the

*Read before the Camp Release District Medical Society, May 3, 1906.

vagina in a forward direction at about a right-angle to the muscular tube. The supports of the uterus are its broad ligaments, which suspend it with side expansions, the vaginal tube resting upon the perineum supporting the cervix. The sacro-uterine ligaments, consisting of two folds of the peritoneum, hold the cervix near the sacrum, with the anterior vaginal wall acting as a counterpoise suspending it in front.

The round ligaments act as stays, preventing the uterus from being forced into retroversion by sudden impulse or jar. The uterus is supported from almost every point, but in no case are the supports immovably fixed. No organ of the body is more carefully protected from external violence, either from its immediate environments or from within.

The female pelvis, upon which the destinies of the human race so much depend, is not only a chest of security, but it is a stronghold of marvelous nervous mechanism. By nerve connection it has extensive automatic control of almost every organ in the body. No other organ except the heart has such universal sway over the whole female economy. From puberty or early maidenhood to the menopause, the immense net-work of sympathetic nerves surrounding the uterus is ever ready to perform herculean tasks, excelled by the solar plexus only.

Causes.—The causes may be acute or chronic. The acute, which is very rare, is usually produced by direct violence from without, or lifting of heavy weights at time of a distended bladder. Chronic causes may be the result of imperfect development, resulting in a long cervix, a dilated bladder, or senile shortening of anterior vaginal wall, and metritis.

Retroversions and flexions are more common in married than unmarried women, due to the effects of parturition. Relaxation of the uterosacral ligaments alone is a frequent cause.

These dislocations are usually complicated by more or less catarrhal endometritis. The ovaries become displaced, enlarged, and tender. Peritonitic adhesion between the fundus uteri and rectum is a common complication.

The usual symptoms accompanying these dislocations, are metrorrhagia, menorrhagia, sterility, backache, tender ovaries, leucorrhoea, disturbance of digestion, dysmenorrhoea, bladder trouble, constipation, palpitation, headache, dizziness, and general irritability of the sympathetic and sensory nervous systems, with a tendency to abortion and reflex neuroses.

Of all these symptoms, backache is the most common, and the following complications may be mentioned: pelvic, rectal and bladder symptoms, leucorrhoea, menstruation, conception, headache, digestive disturbance, irritability of the nervous

system. Each of these complications deserves separate and a more extended discussion than I am able to give in this paper.

The diagnosis is determined by digital and bimanual examination. A correct diagnosis depends upon our ability to correctly locate the position of the fundus of the uterus. In retroversions the body is directly continuous with the cervix; in retroflexions a sulcus or kink will be found in the posterior wall, and is more difficult to recognize. By differential diagnosis these dislocations must be distinguished from a fibroid nodule, an accumulation of feces in the rectum, an extra-uterine gestation sac, a gross tubo-ovarian lesion, and a subperitoneal growth. This can all be accomplished by bimanual examination, the use of uterine probe, and drawing down the uterus with a volsellum, which will show the relation of the fundus to any growth.

Without going more fully into the etiology, more minutely into methods of examination, or into a more exhaustive study of the anatomy of the pelvis, than the foregoing hasty discussion will allow, I will proceed to the more practical part of my subject, namely, the treatment, and here, too, I can but briefly touch on general principles, with the elucidation of but one or two important practical applications.

In the treatment of simple, persistent retroversion without adhesions or laceration of the perineum or diseased appendages, a cure may be effected without operation; however, you can not safely promise a cure in any case of retroversion without finally resorting to operative procedure, but after taking the precaution to explain to your patient before treatment is begun, of the possibilities of its failure, one is justified with the consent of the patient, in making an attempt to cure without operation. The treatment here should be (1) cure the exciting complications; (2) replace the uterus; (3) retain the uterus in position by a well fitting pessary, supplemented by a judicious application of local tonics and stimulants. Retroversion due to arrest of development can usually be easily replaced, but is difficult to maintain in position. Pregnancy has a favorable influence upon this class of patients.

When retroversion is due to senile involution, no treatment, as a rule, is required. When due to anterior or posterior fixation of the cervix, treat the existing parametritis. When due to shrinking of the posterior wall or elongation of the anterior wall, remove the inflammatory condition and install an intra-uterine stem. When the uterosacral ligaments are relaxed, the treatment consists in replacing the uterus and keeping it in position by a suitable pessary.

The methods employed to replace a retroverted uterus are (1) bimanual vagino-abdominal and

recto-abdominal manipulation; (2) sound and uterine repositor; (3) genupectoral position and manipulation; (4) Sims's position. The bimanual method is regarded with great favor by many, and is held to be the only proper method. You are all familiar with the technic of this method. The probe may be used when the uterus is too sensitive for the bimanual manipulation, but is always more or less unsafe, and should be used with care. Before using the sound, it is advisable to envelop or wrap it with cotton, and this should be saturated with a carbolyzed solution before introducing into the uterus. When a gravid uterus becomes wedged below the sacral promontory, it is advisable to place the patient in the knee-chest position. The Sims position is preferable when you wish to introduce the fingers of the right hand into the posterior fornix, and for the purpose of pushing the cervix backwards, thus aiding the completion of the reposition. When adhesions are present, make gentle massage of the adhesions through the posterior fornix, with one or two fingers for five to ten minutes at a time, stretching the adhesions, at the same time gently pushing up the fundus. Hot douches and sitz-baths, or tampons saturated with boroglyceride pushed well into the posterior fornix and allowed to remain twelve to twenty-four hours, will aid in the separation of minor adhesions. Forcible breaking up of extensive adhesions under anesthesia by bimanual manipulation is sometimes resorted to, but is regarded with much apprehension as a dangerous procedure.

A great variety of pessaries are on the market, and used for retention of the uterus, in the normal position. I might mention that Hodges' pessaries, and their various modifications by Emmet, Thomas, and Smith, are looked upon with favor. The main object to be attained by use of a pessary in retroversion, is the retention of the cervix backward, not pushing of the fundus forward. You are all familiar with the method of introducing a pessary. Pessaries should never be used while pelvic inflammation is present or unless the uterus can be thoroughly replaced.

Pessaries should be removed once a month, cleaned, and replaced. One producing pain should not be worn.

When all these measures have been resorted to with negative results, we are placed in a position to advise operative procedure for the purpose of retaining a replaced retroverted or retroflexed uterus. Various operations have been advised, recommended, and resorted to, and each operative method has its advocates.

The operations principally advised are (1) shortening of the round ligaments (Alexander's operation) now rarely resorted to; (2) ventro-

fixation; (3) Shucking's operation. For a description of the technic of these operations, I will not take your time, but will refer you to your text-books for it.

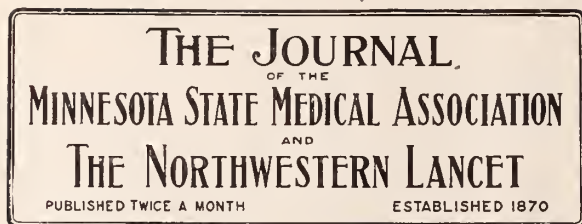
The Alexander operation is rapidly going into disuse on account of its failure to permanently hold the uterus forward, and owing to its tendency to produce one pathological condition, namely, antelexion with fixation. Fowler's method of ventral fixation is viewed with much favor. An incision is made in the median line as for any abdominal section. This affords an opportunity to explore the entire pelvis, permits the separation of fixed adhesions, the removal of diseased appendages or cysts, should such a condition exist, and drainage if needed. In stitching the fundus to the anterior abdominal wall, I would advise the use of chromicized catgut or silk sutures. Following this operation it is advisable to wear a well fitting pessary for some time. Some operators for ventral suspension, shorten the round ligaments by Wyle's method before tying the suspension sutures, in order to strengthen the position of the uterus.

For Shucking's operation I have nothing to offer.

As a result of my information and experience of ventral suspension of the uterus, I have no hesitation in saying that it is the best treatment for the radical cure of chronic posterior dislocations of the uterus. I also believe when the benefits resulting from this operation are fully appreciated by the profession, many of the cases of so-called "nervous prostration" will receive greater attention and favor from the family physician, and where the reflex neurosis is traceable to the subject of this paper, you are justified in endeavoring to carry out the suggestions made herein. By so doing many cases will be permanently relieved, and a large number of women restored to health.

THE SANATORIUM IN THE TUBERCULOSIS CRUSADE

C. L. Wheaton, Chicago, considers the sanatorium one of the most important aids in the crusade against tuberculosis; climate can no longer be considered the one great factor in the cure. The sanatorium has shown that pure air in any climate is the essential thing in the arrest of this disease. It is not, however, through the private sanatorium that the most beneficial results are to be obtained, there should also be public sanatoria for indigent consumptives, without depending altogether on antituberculosis associations taking the initiative and asking only for a certain amount of government aid.—*Jour. A. M. A.*



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AN UNFORTUNATE "EXPERT" WITNESS

The recent exhibition in the Thaw case of the tribulations of an "expert" is a wholesome lesson for lawyers and physicians. A few experiences of this kind will either elevate the expert witness or consign him to oblivion.

Various opinions regarding the Thaw expert have been expressed by various minds. Probably the best criticism is directed to the attorney who had the audacity to introduce his expert to testify on the sanity or insanity of a murderer after hearing but one witness. This is a mistake which can best be remedied by the expert himself. He should not allow himself to testify as an expert without first hearing all the evidence upon which he bases an opinion. Nor should any man go on the stand to testify as an expert unless he is prepared to defend his opinion by his own personal experience, knowledge, and observation. Any man who undertakes to instruct the court and jury should be educated and qualified at least in the specialty he represents. If he is incompetent and unworthy of his calling he

should be handled as unmercifully as Jerome handled the witness in New York.

Another criticism is directed toward the lawyer who browbeats the witness by abuse, sarcasm, and unjust cross-examination. A man may be able and competent but easily embarrassed, and therefore he is at the mercy of the examiner. Such an expert is to be pitied, but, unfortunately, he is not excused for his confusion on any other ground than ignorance. The court, if appealed to, will always protect a witness from abuse by an unjust lawyer. The witness who thinks or claims himself an expert must be able to control himself under the most trying circumstances, and if he knows his subject and is honest, no lawyer will confuse him. The difficulty with the average expert is his desire to diffuse his knowledge, to air his opinions, and to appear bright. Such an expert is always in danger of cross-fire and confusion. The only stand for an expert to take is for honesty and sincerity of purpose, a fairness to give the required information in both direct and cross-examination, and to be plain and concise in his statements, and be able to show that his opinion has knowledge to substantiate it. As long as there are men on the face of the earth there will be a difference in the formation of opinions and conclusions, but let that difference be honest and trustworthy.

One of the greatest trials the expert has to endure is the inability of the attorneys to understand a medical situation and to comprehend the necessity of framing questions that are rational and calculated to bring out the point at issue. The attorney's answer to this is, that he is afraid of bringing out too much for fear his opponent may profit thereby and thus the expert is further handicapped, and the court and jury are only too glad to eliminate all "expert" opinions, and decide for themselves.

The solution of the medical expert is still a matter of discussion. At present he is tolerated, and usually dismissed without honor. The court should select experts to advise with him, and the jury should get their medical opinions in this way. Under such conditions the expert should be paid a liberal fee for his expert advice. If he is incompetent, the court will soon discover it, and his opinion will no longer be sought in the county in which he resides. If he is judicious and skilled, and is able to impart his knowledge, his services will be respected.

If this millenium shall not soon come, the incompetent, dishonest, or one-sided expert should be driven from the court by ridicule or force.

DETENTION HOSPITALS

The State Board of Control has caused a bill to be introduced into the legislature urging the establishment of detention hospital buildings at Saint Peter, Rochester, and Fergus Falls, where the state hospitals for the insane are located.

The members of the Board of Control believe that incipient cases of insanity—whatever that means—should be hurried at once to the detention hospitals, there to be observed and treated, and, if necessary, transported to other departments in the state institutions when the occasion arises.

Another argument is, that the medical department of the state hospitals is in a better position to treat these early cases than is the staff in a general hospital in the cities or towns from which these patients are to be committed.

This argument is a good one when applied to small towns without hospital accommodations, but some distinction should be made in case of the large cities.

The new bill would mean the abolishment of the detention wards and hospitals now maintained in Minneapolis, Saint Paul, and Duluth. From the standpoint of the larger cities this is an injustice to both patient and physician. During the course of a year there are a large number of mildly insane patients that can be successfully cared for and treated in hospitals in the cities. Several physicians can testify to the truthfulness of this statement, and many patients will corroborate it. It has been thought for many years that, if the early cases of mental disturbance could be placed under hospital restraint and care without the necessity, many times, of court proceedings of the long and trying journey to the state hospitals, an early recovery might be expected.

Now that many of the so-called forms of insanity are known to be due to physical disorders engrafted upon an unstable nervous apparatus, and that the internalist is on equal footing with the psychiatrist, it would seem best to permit the patient to have the combined attention of two or more physicians who are skilled in their departments, and thus save the patients the necessity of leaving their own city, eliminate the public train-service, and reduce the expense involved in transportation. At our present rates for the care of the detention case, a patient may be treated in the home detention hospital for about what it costs to commit and transport the patient to a state institution, thus saving time, strain, exposure, and publicity.

With the introduction of this new bill our state hospitals for the insane become general hospitals, and it is not fair to assume that the city hospital, with its medical staff, is not competent

to decide which patient shall or shall not be committed to the state hospitals. Another, and important, point to be considered is that in Minneapolis and Saint Paul a large number of medical students need clinical material to study under competent instructors. To do away with our detention hospitals means a loss of material for observation, not experimentation. The state maintains a medical department in its university, and when the State University hospital is located it should have within its borders a psychopathic hospital—a hospital where nervous and mental cases may be scientifically studied.

The old idea that the commitment of an individual to a state hospital for the insane carries with it a stigma will not disappear until the public are better educated in disease, and learn particularly that mental diseases are usually due to physical disorders. A detention hospital is an educator, and should be located near large centers of population.

The Board of Control suggest that each of the large counties should maintain its own detention hospital, but in the end the state will be obliged to care for its insane, and the erection of new detention hospital buildings on the grounds of the various state institutions is a needless expense. Each state institution is now equipped with facilities for the treatment of the sick and insane. Why not improve the present equipment and better the service rather than add another burden to an already overcrowded institution?

THE TUBERCULOSIS EXHIBIT

More than 50,000 people visited and inspected the tuberculosis exhibit, held in Minneapolis between and 2d and 12th of February. It proved a great educator, and will do a great deal of good in the community. Sick and well have shown a genuine interest in the exhibition, with its models, tents, charts, and lantern lectures. Each day special lectures were provided, and each was attended by large audiences, standing-room being at a premium at the evening talks. The exhibition opened each day at 10 a. m., but the people began to come two hours before the advertised time. At 4 and 8 p. m. special addresses were given by physicians and laymen. At one of the afternoon sessions Mrs. Andreas Ueland presided, while Mrs. David F. Simpson made the address. This meeting was devoted to the methods of cleaning and sweeping school-houses. The janitors of the various school-houses have formed a union, and it has been very difficult to convince them that better methods of cleaning floors might be adopted. It is to be hoped that the women who have given so much energy,

study, and time to this problem may reap the reward of their years of service.

After the special addresses, and at frequent intervals during the day, Mr. E. G. Routzahn, the director of the exhibit, gave a stereopticon lecture, in which he showed the breeding grounds of tuberculosis, as well as the newer methods of combating the plague. Mr. Thos. Van Lear spoke in behalf of the labor organizations. Bishops, clergymen, judges, professors, doctors, and associated charity specialists contributed to the success of the meeting.

The exhibit was given under the auspices of the National Association for the Study and Prevention of Tuberculosis, and the Anti-Tuberculosis Committee of the Minneapolis Associated Charities.

The Western Conference on Tuberculosis had a large meeting on Tuesday, February 5th, when a number of papers were read by prominent specialists in the Twin Cities, and during which time addresses were made by specialists from abroad, notably Dr. Arnold C. Klebs, of Chicago, Dr. John S. Fulton, of Baltimore, and Dr. John M. Beffel, of Milwaukee.

All of the addresses and papers were prepared for mixed audiences and were educational to the public, full of instruction and advice, and all emphasized the necessity of fresh air, out-of-door life, cleanliness in order to prevent the spread of the disease, and simple, plain, nutritious foods. Some of the papers will be published and made a part of the general campaign of education.

The State Association for the Prevention and Relief of Tuberculosis met on Feb. 6th, and was well attended. Many of the speakers came from out of the state, the majority, however, coming from within its borders.

The work has been a strenuous one, but highly instructive and educational. It has aroused an immense interest in the fight against tuberculosis.

VENTILATION

The man who solves the problem of heating and ventilation, and who provides pure air at a proper temperature, will deserve a Nobel prize. The ventilation of a house in the winter months is not usually a difficult task, but to heat and ventilate at the same time without largely increasing the consumption of fuel, is a different proposition. The heating and ventilating of large rooms where a number of people are gathered together is still a bug-bear. Judging from the foul air of the large assembly-room and the large court-room in our city and county building, and the various school-rooms throughout the city when not over crowded, it would be a good

thing to teach the architects, care-takers, and managers of these buildings a few of the elementary principles in sanitation. Presumably the architects are mainly at fault for the presence of bad air in rooms. In designing a house, office-building, or assembly-room but few architects have the faintest conception of proper means of ventilation. They fail to profit by their own mistakes and the errors of others.

During the meeting of the Tuberculosis Conference and Exhibit the air in the assembly-room was rotten—no other word can express it. It can be remedied if some one will investigate the cause. It was a farce to expect people who came to be instructed about the need of fresh air, to force them to sit in a room that was so loaded with germs that various bacilli could almost be recognized with the naked eye.

The architects are not wholly to blame under all circumstances, but they ought to be able to design a room that could easily be ventilated. If the care-taker was at fault, he should have been forced to spend his entire time in his smell hole, and take the consequences.

CORRESPONDENCE

A PROTEST FROM DRS. MAYO

Rochester, Minn., February 10, 1907.

TO THE EDITOR:

We have lately suffered an unwarranted intrusion into our private affairs, through the publication in certain newspapers of a sensational article furnished by a "Sunday Supplement" syndicate.

Up to the present time we have succeeded in checking several such publications. We are now taking legal steps to determine what redress, if any, may be had, and to what extent, not only ourselves, but the medical profession as a whole, can be protected against such outrages on common decency.

Respectfully,

W. J. AND C. H. MAYO.

REMINISCENCES OF MEDICAL PRACTICE IN NEW YORK CITY

A. Jacobi reviews the early history of the New York Academy of Medicine. The Academy was founded in 1847 by one hundred and eighty-four physicians. Of these original members two are still alive. He calls attention to the fact that many whose names should be remembered with gratitude are forgotten, while others who, by accident or push, attain high places, are remembered. He wishes that this might be changed.—

Medical Record.

REPORTS OF SOCIETIES

NICOLLET-LE SUEUR COUNTY SOCIETY

The annual meeting of the Nicollet-Le Sueur County Society was held at Le Sueur at the residence of Dr. E. A. Dodge on January 29th.

A paper was read by Dr. D. A. Kirk on "Pto-
maine Poisoning."

A resolution to enforce the five-dollar insurance examination fee was adopted.

The following officers were elected for the current year: President, Dr. W. M. Theissen, Henderson; vice-president, Dr. F. P. Strathern, St. Peter; treasurer, Dr. J. W. Daniels, St. Peter; secretary, Dr. J. E. Le Clerc, Le Sueur; delegate, Dr. D. A. Kirk, Le Sueur. At the close of the meeting a banquet was given in honor of Dr. H. A. Tomlinson, president-elect of the State Medical Association.

J. E. LE CLERC, Secretary.

CLAY-BECKER COUNTY SOCIETY.

The annual meeting of the Society was held January 28th, and in spite of the very irregular train service the attendance was good. Several members of the Cass County Society (Fargo, N. D.) were present as guests. A membership consisting of 85 per cent of the physicians in Clay and Becker counties indicates that the Society is in a flourishing condition.

Papers were read as follows: "The Use of the X-Ray," by Dr. A. J. Kaess, Moorhead, and "Tubercular Peritonitis, with Report of Cases," by Dr. G. N. Frazier, Detroit.

The following were elected officers for 1907: President, Dr. D. C. Darrow, Moorhead; vice-president, Dr. G. W. Frasier, Detroit; secretary-treasurer, Dr. E. R. Barton, Frazee; delegate, Dr. E. R. Barton; alternate, Dr. W. J. Awty.

E. R. BARTON, M. D., Secretary.

MINNESOTA ACADEMY OF MEDICINE

The regular meeting of the Academy was held Wednesday evening, February 6, at the Minneapolis Club, Minneapolis. There were 43 members and three guests present. The President, Dr. R. O. Beard, being out of the city and the Vice-President, Dr. Gillette, having to read a paper before another medical body that night, the Secretary called the meeting to order, and

upon motion of Dr. William Davis, Dr. J. W. Little was chosen chairman of the meeting.

Under the head of miscellaneous business Dr. Weston proposed to amend the constitution by substituting the word "Academy" for "Executive Committee" in Section 2 of Article III. The effect of this amendment is to throw the election of new members into the Academy instead of by the Executive Committee, as now prevails.

Dr. H. P. Ritchie reported a case of Jacksonian epilepsy caused by a piece of oiled silk which had been placed under the scalp in order to prevent serious adhesions following an injury. An abscess had formed, and fluids had collected under the silk, producing pressure and irritation upon the cortex. The operation for removal of this source of irritation was made eleven weeks ago, and so far there has been no recurrence of the attacks.

Dr. A. E. Benjamin reported a case of gallstone operation with some unusual features.

Dr. A. Schwyzer reported a case of exophthalmic goitre operated upon with benefit. The operation was followed immediately, however, by extreme thyroidism, so that the life of the patient was greatly endangered. Contrary to the advice of Kocher morphia was given, 1/6 gr., hypodermically, and repeated several times at comparatively short intervals. The result was almost marvelous in the prompt relief of the symptoms. The doctor believes that in this instance the morphia saved the life of the patient.

Dr. Rees raised the question whether morphia is not often the best heart stimulant that can be selected. He believes that in many cases of threatened failure, when the organ needs quieting and stimulating, that morphia is the best agent at our command.

Dr. A. W. Abbott, of Minneapolis, read a paper entitled "Some Observations upon the Treatment of Retroflexion and Prolapse of the Uterus." He also exhibited a special forceps, of his own invention, for fixing and holding the organ while operating.

Dr. J. L. Rothrock, of St. Paul, opened the discussion of Dr. Abbott's paper. He is of the opinion that in spite of all the operations that have been devised for prolapse there is much left to be desired. In the European clinics the reports show that 30 per cent of all cases operated upon for this purpose recur. In the procedure of folding the uterosacral ligaments upon themselves and stitching for the purpose of shortening, he doubts whether the adhesion will be strong enough to withstand the strain. There has been much controversy as to the nature of the support of the uterus. He had repeatedly made experiments on the cadaver by opening

the abdomen, then making traction on the organ from below, and watching the results. He found that the uterosacral ligaments were first put upon the stretch, next the vessels, ovarian artery, etc., and then the broad ligament. The round ligaments simply hold the organ forward.

Dr. Moore commended the instrument exhibited by Dr. Abbott as entirely practical and simple.

Dr. Dunsmoor referred to the fact that Emmet, succeeded by Dudley, had done much to establish the present method of sustaining the prolapsed uterus. He also commended Dr. Abbott's instrument.

Dr. Abbott, in closing the discussion, stated that, although it was supposed that the uterus had certain definite supports, he now believes that the funnel-like shape of the pelvis, together with the position of the organ, and the general arrangement forming a lap-valve take the place of supports. The real supports are the bone and the levator ani muscle pulling the rectum up.

Dr. E. M. Lundholm read his inaugural thesis, entitled "The Rational Treatment of Septic Peritonitis."

Dr. Law considered this a very valuable paper, especially for the younger men. He cited a case in which the patient was almost moribund, but operation with thorough drainage and washing out had produced a marvellous recovery.

Dr. Moore said that his experience had been far less favorable than Dr. Lundholm's, and that he wished to call to mind the fact that these cases do not all die when let alone. He does not like gauze as a drainage unless a rubber tube is wrapped within the gauze, or rubber tissue wrapped outside the gauze, making a cigarette drainage.

Dr. Dunsmoor commended the Fowler position for this operation, when the septic focus is below the middle of the abdomen, but not when it is above. He agreed with Dr. Moore about the drainage.

Dr. Nippert raised the point that the temperature may drop to normal in these cases while the pulse remains high. This he believes to indicate a bad prognosis.

Dr. A. Schwyzer heartily agreed with Dr. Lundholm in his treatment. He believes in operating as early as possible in this class of cases. He thinks the vomiting of fluids, etc., is not due to antiperistalsis, but simply an overflow upward from the alimentary tract. He agreed with Drs. Moore and Dunsmoor about the drainage, and would even use a glass tube for the purpose. He also emphasizes the point that foreign rubber tubing is far superior to the American for this purpose. He said he has a piece he brought from the old country fifteen years ago, which he

has been using all this time, and it is good yet. He protested against the saline enema, holding that clear water is absorbed much more rapidly, owing to the principle of osmosis.

Dr. Nootnagel raised the point that beef tea is not a food, but a stimulant, as it contains extractives only.

Dr. Lundholm in closing said that beef tea may be only a stimulant, but in practice he finds it the best thing for the rectal feeding.

As to whether to operate or not in cases of septic peritonitis he could not give exact figures, but could say at least that he has operated upon hundreds of cases of this kind, and he believes it to be by far the best method. He makes as small an opening as possible to secure thorough drainage of the fluid. An important point is quiet after the operation, and washing out of the stomach. Do not try to move the bowels for two weeks after the operation.

A. W. DUNNING, M. D., Secretary.

HENNEPIN COUNTY SOCIETY

A regular meeting of the Hennepin County Society was held on February 4th. The President, Dr. J. E. Moore, was in the chair, and forty-five members present.

The Executive Committee recommended that the dues for 1907 be fixed at \$7.00, and on motion the dues were fixed as recommended.

The committee also reported the publication of President Todd's annual address in the Minneapolis Journal.

A letter was read from the Hon. Loren Fletcher in regard to the Osteopathic bill for the District of Columbia now before Congress.

The President, Dr. J. E. Moore, reported in regard to the annual banquet, stating that the date was changed to the 16th of April, and that arrangements were being made to secure a speaker from abroad. The President also announced the members of the Committee on Vital Statistics as follows: Dr. J. A. Watson, chairman, Dr. J. H. Rishmiller, and Dr. W. R. Murray.

Dr. C. N. Spratt presented a case of sinus thrombosis, showing the results of operation.

Dr. F. A. Dunsmoor reported several interesting surgical cases, one a severe injury of the shoulder with penetration of the pleural cavity.

Dr. J. E. Moore reported a case of vesicovaginal fistula, following vaginal hysterectomy, relieved by operation.

Dr. C. N. Spratt, the librarian, reported in regard to circulating the journals. Members are requested to hand in the names of any book or

medical journal that they wish to have on file in the library.

The Censors having reported favorably on the name of Dr. J. A. Sanford, U. of Minn., 1901, he was duly elected to membership.

The following named physicians were nominated for membership: Dr. J. P. Flynn, Rush, 1900; Dr. M. J. Lynch, Rush, 1905; Dr. Fred J. Pratt, U. of Michigan, 1901; Dr. A. E. Hedback, U. of Minn., 1897; Dr. W. S. Nickerson, U. of Minn., 1905; Dr. Don F. Fitzgerald, U. of Minn., 1903; Dr. C. A. Witham, U. of Minn., 1906; Dr. Oliver R. Bryant, U. of Minn., 1905; Dr. H. M. Meleck, Hamline, 1903.

Dr. J. W. McDonald then gave an address on the "Life and Character of the Late Dr. C. K. Bartlett."

The scientific program being in order, Dr. J. M. Lewis read a paper on "The Use of the X-Ray in Fracture." The discussion was opened by Dr. J. Clark Stewart, followed by Drs. F. R. Wright, H. L. Williams, E. S. Geist, C. A. Donaldson, W. B. Murphy, and J. E. Moore. The discussion was closed by the essayist.

Dr. J. A. Crosby read a paper on "Prescribing Alcohol." The paper was discussed by Drs. J. W. Bell, G. D. Haggard, and Mary S. Whetstone, the discussion being closed by Dr. Crosby.

C. H. BRADLEY, M.D., Secretary.

BOOK NOTICES

CONFERENCE ON THE MORAL PHILOSOPHY OF MEDICINE. Prepared by an American Physician. Pp. 363. New York: Rebman Company.

If you are looking for a book to present to your son or to a friend who is about to begin the practice of medicine, here is exactly "what the doctor ordered." It is not a book he would be likely to buy for himself, and yet it is one to which he can profitably devote some of the many leisure hours that he will have at his disposal during the first months of practice. It would be well if every physician knew something of the history of his profession, something of the high ideals which have actuated its noblest disciples, and something of the privileges, duties, and obligations entailed on those who adopt it. To teach these is the aim of this book. The first three chapters are devoted to medicine and medical practitioners from an historical standpoint, and the following pages deal in succession with the medical student, the hospital interne, the young practitioner, methods of sense-culture, medical morals, duties to patients and the profession, the medical writer and speaker, etc.

HANDBOOK OF ELECTRICITY IN MEDICINE. By Dr W. H. Guilleminot. Translated by W. Deane Butcher, M. R. C. S., Surgeon to the London Skin Hospital. Pp. 588. New York: Rebman Co.

This excellent book is an attempt to introduce to English-speaking physicians the most recent electrotherapeutic work of the French school. It is made up of three parts. The first is devoted to a theoretical study of electrical energy, the second to a study of its physiological effects, and the third to the application of electrotherapeutics in practise.

In the preliminary portion of the book a special effort is made to fully acquaint the reader with all the processes connected with electrical phenomena, in order that he may approach the practical side of the subject from a rational standpoint. In the part devoted to diagnosis and treatment there is, first, a general consideration of the principles involved; and, subsequently, the different disease conditions are taken up separately, and their diagnosis and treatment discussed. Eight colored plates and seventy-seven illustrations add materially to the value of the book.

MANUAL OF PSYCHIATRY. By J. Rogues de Fursac, M. D. Authorized Translation from the French by A. J. Rosanoff, M. D. Edited by Joseph Collins, M. D. pp. 352. Cloth \$2.50. New York: John Wiley and Sons.

This is an excellent manual of psychiatry based on Kraepelin's classification of mental diseases. It is probably the best manual that has yet appeared. The book is divided into two sections. The first deals with general psychiatry, under which heading are considered etiology, symptomatology, history, and examination of the patient, and general therapeutics. Etiology and symptomatology are unusually fully and satisfactorily discussed, but the examination of the patient and general therapeutics are scarcely given the attention that their importance demands.

Part two is given up to the consideration of special psychiatry, and includes the deliria, the psychoses of exhaustion, the intoxications (alcohol, morphine, cocaine, and uremic conditions), and the other well-known forms of insanity, according to Kraepelin's classification.

General paresis and the intoxications are more fully dealt with than any other subjects, and as these are both diseases of special interest to the general practitioner, the book commends itself as well to him as to the student and specialist.

NEWS ITEMS

Dr. I. F. Seeley, of Faribault, has moved to Elysian.

Dr. N. C. Davis has moved from Slayton to Badger.

Dr. Thor Moeller has moved from Devils Lake, N. D., to Minot, N. D.

Dr. F. J. Roberts, of Cando, N. D., is doing post-graduate work in Chicago.

Dr. W. G. Wendell has moved from Enderlin, N. D., to Courtenay, N. D.

Immanuel Hospital, of Mankato, has decided to establish a nurses' training-school.

Dr. T. W. Collinson, of Maxbass, N. D., has decided to locate in Culbertson, Mont.

Dr. Paul Sorkness, of Fargo, N. D., has been appointed county physician at Fargo.

Dr. T. S. Egge, of Moorhead, has a broken leg, the result of a fall on his office stairs.

Dr. Murdock MacGregor, of Fessenden, N. D., is doing post-graduate work in Chicago.

Bids will be open this week for the construction of the new hospital building at Wabasha.

Dr. Stephen Fisher, of Dickinson, N. D., has gone east for a course of special work in surgery.

Dr. P. M. Walker, of St. Thomas, N. D., has sold his practice, and will move to Everett, Wash.

Dr. A. H. Movius, of Chicago, has become a partner of Dr. T. T. Skogen, of Flandreau, S. D.

Drs. Morrison and Rogers, of Donnybrook, N. D., have opened a small hospital at that place.

Dr. Ward, of Bemidji, has been appointed health officer and county physician at a salary of \$2000.

Dr. H. W. Froehlich, of Pine City, was married last month to Miss Winifred M. Grout, of Mankato.

Dr. Albert Brandt has become associated with Dr. Ray Campbell of Bismarck, N. D., in hospital work.

Dr. Miriam E. Griffin, of St. Paul, has become associated with Dr. E. F. Reamer, of Mitchell, S. D.

Dr. P. H. Cremer, of Lake City, has been in Chicago for the past two months doing post-graduate work.

Dr. E. M. Larson, of Storey, Iowa, has formed a partnership with Dr. J. M. Ekrem, of Minot, N. D.

Dr. E. W. Benham, of Amboy, has gone to New York for post-graduate work, and will not return to Amboy.

The Bethesda Hospital Society of Moorhead has purchased a site, and will soon begin the erection of a \$50,000 hospital building.

Dr. A. B. Kirk, of Chisholm, has gone East to do post-graduate work. He will spend three months in New York City in his work.

Dr. R. Nyswander, of Streator, Ill., has located in Wahpeton, N. D., for the practice of diseases of the eye, ear, nose, and throat.

Dr. J. M. Riggs, of the staff of the Missouri State Hospital, has accepted a position on the staff of the Lenont Hospital, of Virginia.

Dr. J. Y. Phillips, of the Lenont Hospital, of Virginia, has moved to Northfield, and will be associated with Dr. J. R. Phillips, his uncle.

Dr. E. S. Muir will be the next mayor of Winona, as no independent or Republic candidate was nominated to run against him.

Dr. John T. Lee, formerly a resident of Minneapolis, died last month in Portland, Oregon. He was a graduate of the Minn. Hospt. Med. College.

Dr. F. Cutler, of Red Lodge, Montana, will move to Hunter's Hot Springs, in the same state. He has sold his practice to Dr. Milton W. Hall, of Chicago.

The new hospital at Maddock opened its doors this week. It is in charge of Miss Olive Hovland, formerly head nurse of St. John's Hospital of Fargo.

Dr. O. E. Ely, who has been an assistant in St. Joseph Hospital, St. Paul, has gone to the Budd Hospital, of Two Harbors, as an assistant physician.

Dr. I. W. Lynn, of Wales, N. D., who was taken to the Deaconess Hospital at Grand Forks for treatment for typhoid fever, is rapidly recovering.

Dr. J. A. Titus, a Rush graduate, who has been practicing in Montevideo, has located in Minneapolis with office at Washington and First Avenue South.

Dr. L. C. Mead, of Yankton, S. D., announces that work on the new state hospital for women will begin at once, there being \$25,000 on hand for the purpose.

Dr. John E. Corrigan, of Canton, S. D., and S. H. Corrigan, of Swanville, Minn., have become associated with Dr. Dunham in hospital work in Sioux Falls, S. D.

Dr. George H. Wells, of Butte, Mont., has purchased the Boulder (Mont.) Hot Springs, at a price over \$50,000.00, and will conduct a sanitarium at that place.

The Rice County Society elected the following officers: President, Dr. A. C. Rogers; vice-president, Dr. Warren Wilson; secretary and treasurer, Dr. W. H. Rumpf.

It was Dr. D. F. Wood, of Hanska, and not Dr. "H. F. Ward" (a typographical myth), who was appointed by Gov. Johnson a member of the State Board of Medical Examiners.

Dr. Joseph A. Aldrich, an army surgeon, who was stationed at New Ulm during the Indian troubles and did valiant service, died last month at Denver, at the age of 89.

The Wisconsin State Board of Medical Examiners are endeavoring to get a law through the legislature defining the practice of medicine and to regulate the practice of midwifery.

Grand Forks, N. D., has appointed a practicing physician, Dr. E. J. Davidson, milk inspector. Dr. Davidson will not be the active inspector, but the work will be done under his supervision.

Dr. H. P. Boardman, who has practiced in Oakes, N. D., for twenty years and who founded and conducted a very successful hospital, has given up practice and will reside in California.

The officers for the current year of the Park Region District Society are as follows: President, Dr. J. E. Serkland; vice-president, Dr. D. C. Cowing; secretary, Dr. O. H. Haugan.

The Olmsted County Society elected the following officers at its annual meeting last week: President, Dr. J. E. Crewe; vice-president, Dr. F. R. Mosse; secretary-treasurer, Dr. Justus Matthews.

Dr. Thomas J. Gray, a Homeopathic physician, who formerly practiced in Minneapolis and was also head of the St. Cloud Normal School, died last month in Nevada. He had resumed the practice of medicine.

Dr. Witherstine, a member of the Minnesota State Senate, has introduced a bill for the licensing of nurses. The law would not affect nurses who do not wish to register; it simply gives standing to those who pass the examination.

Dr. L. D. Shipman, of Minneapolis, a 1900 Homeopathic graduate of the State University, and also a graduate of the Chicago Eye, Ear,

Nose and Throat College, died last week from diphtheria, which he contracted from a patient.

The officers of the Upper Mississippi Society for the current year are as follows: President, Dr. G. R. Christie; vice-president, Dr. J. B. Holt; secretary, Dr. C. F. Coulter; treasurer, Dr. Paul Kenyon.

The Washington County Society met in Stillwater last month and elected officers as follows: President, Dr. E. S. Boleyn; vice-president, Dr. F. A. Stevens; secretary and treasurer, Dr. F. G. Landeen.

The City and County Hospital of Albert Lea, founded a year ago by public-spirited citizens, will close its first year this month, and its work has been so successful and so beneficial to the city that funds will be sought to erect a suitable new building.

The Graduate Nurses' Association of this city has sent six nurses to Chicago to assist in the enormous amount of work caused by epidemics of scarlet fever and diphtheria in that city. The call came from the Chicago Graduate Nurses' Association.

The Devils Lake District Society of North Dakota elected the following officers at its last meeting: President Dr. W. F. Sihler; vice-president, Dr. G. F. Drew; secretary and treasurer, Dr. G. J. McIntosh; delegate, Dr. A. T. Horsman.

The Southwestern Society met in annual session at Pipestone on Jan. 10. The following were elected officers: President, Dr. W. E. Richardson; vice-president, Dr. H. D. Beadie; secretary-treasurer, Dr. Emil King; delegate, Dr. G. D. Rice.

At the annual meeting of the Blue Earth County Society the following were elected officers: President, Dr. I. D. Webster; vice-president, Dr. F. J. Bromberger; treasurer, Dr. Lida Osborn; secretary, Dr. A. G. Liedloff; delegate, Dr. J. W. Andrews.

The Aberdeen District Medical Society of South Dakota met at Aberdeen last month and elected the following officers for the current year: President, Dr. C. E. McCauley; vice-president, Dr. Edgerton; secretary, Dr. Clemmons; treasurer, Dr. M. C. Johnston.

The Pine-Chisago Society met in annual session January 18th, at Sandstone. The following officers were elected: President, Dr. E. E. Barnum (since deceased); vice-president, Dr. W. A. McEachran; secretary, Dr. W. H. Fraeulich; treasurer, Dr. Oscar Stenberg.

The Fourth District Medical Society of South Dakota held its annual meeting last month at Huron and elected the following officers: President, Dr. O. R. Wright, Huron; vice-president, Dr. J. H. McWhorter, Miller; secretary and treasurer, Dr. Charles J. Lavery, Pierre.

The Goodhue County Society held its annual session at Red Wing on Jan. 8th and elected officers as follows: President, G. C. Wellner; vice-president, Dr. K. Gryttenholm; secretary, Dr. J. V. Anderson; treasurer, Dr. F. W. Dimmitt; delegate, Dr. F. W. Dimmitt.

The McLeod County Association elected the following officers for 1907 at its annual meeting held at Glencoe: President, Dr. P. E. Shephard, Hutchinson; vice-president, Dr. F. E. Kohler, Stewart; secretary-treasurer, Dr. P. E. James, Hutchinson.

At the meeting of the Southern District Medical Society of North Dakota, held at Kulm, last month, the following officers were elected: President, Dr. H. L. Saylor, Cogswell; vice-president, Dr. George B. Ribble, LaMoure; secretary and treasurer, Dr. B. E. Ryder, Oakes; delegate, Dr. Howard Barbour, Edgeley.

We are informed that we were in error in the statement, made in our last issue, that Dr. Leda J. Stacey is the first woman physician to practice in Rochester, as Dr. Ida Clarke, now in Youngstown, Ohio, practiced in Rochester from 1880 to 1887. Dr. Ida Clarke, our informant says, succeeded a woman physician, whose name was not given.

The Nurses' Training School of the N. P. Hospital, Brainerd, graduated the following class last month: Maud Isabel Manning, Fergus Falls; Angela Orville Green, Brainerd; Eleanore May Mackrell, St. Cloud; Jesse Ann Countryman, Tweed, Ontario, and Inez Edison Biggs, Picton, Ontario. Dr. J. A. Quinn of St. Paul presided at the graduating exercises. The school has seventeen pupils left.

The following were granted licenses to practice in North Dakota at the January examination: W. Flynn, Grand Forks; E. M. Ransom, Drake; O. J. Hagen, Abercrombie; O. J. Mugan, Langdon; O. T. Benson, Glenullin; G. E. McCann, Arthur; F. Colwill, Belleville; F. A. Douglas, Washburn; J. H. Griffin, Ryder; R. Nyswander, Wahpeton; J. W. Livingston, Bantry; H. Z. Fisher, Lansford; S. C. Rodda, Garrison; R. V. Rogers, Penn; C. H. Parker, Rutland; C. J. Markelin, Wyndmere; I. S. Abplanalp, Ray.

The Southern District Medical Society of North Dakota met last month at Ellendale. The following officers were elected for 1907: Presi-

dent, Dr. H. L. Saylor, Cogswell; vice-president, Dr. H. G. Ribble, LaMoure; secretary and treasurer, Dr. Bayard Ryder, Oakes; delegate, Dr. H. W. Barbour, Edgeley.

The subject of advertising has been disposed of by the Mitchell District Medical Society of South Dakota in the manner indicated in the following resolution: "Inasmuch as it is against the ethics of our profession to advertise in any manner: Be it therefore resolved that all personals or locals published in the newspapers of this district, in which mention is made of physicians or their work, be sent to the secretary and kept on file until the next meeting of the society when they shall be read and the society may take such action as is deemed necessary."

POST-GRADUATE WORK

Doctor: If you want practical post-graduate work during the fine season in the delightful city, write for particulars, to New Orleans Polyclinic, post-graduate department of Tulane Medical College, P. O. Box 797.

FOR SALE

A drug-store complete: Medicines, oils, paints, wall paper, silver ware, jewelry, etc.; in fact, everything pertaining to a first-class drug-store. Situated in center of farming community. A splendid location. For terms, call or write P. O. Box 4, Preston, Minn.

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SYMPOSIUM ON PNEUMONIA*

SOME SIDE-LIGHTS FROM RECENT LITERATURE ON THE ETIOLOGY AND PATHOLOGY OF PNEUMONIA

By S. MARX WHITE, M. D.

MINNEAPOLIS

INTRODUCTION

From the anatomical standpoint, Weichselbaum¹ classifies acute pneumonia in four general forms:

1. Lobar pneumonia.
2. Lobular pneumonia or bronchopneumonia.
3. Acute interstitial pneumonia.
4. Metastatic; focal or embolic pneumonia.

It is not my purpose in this symposium to consider all of the forms enumerated above, but only the first, that is, lobar pneumonia, with the definition of which all are familiar.

An acute inflammation of the lung can be caused by a number of organisms, and if we include the secondary pneumonias, the list of micro-organisms may contain ten to a dozen names. Primary pneumonia, i. e., that not dependent upon or secondary to a localization of bacteria in some other part of the body, is usually caused by one of the following organisms:

1. *Diplococcus pneumoniae* of Fraenkel.
2. *Streptococcus pyogenes*.
3. *Bacillus pneumoniae* of Friedländer.
4. *Bacillus pestis*.

Pneumonia is also prone to attack those whose resistance is lowered by any of several factors, such as age, alcoholism, surgical intervention, trauma, and other infections; and thus while often secondary to other conditions, it is at the same time an independent infection.

Diplococcus pneumoniae is by far the most frequent cause of lobar pneumonia, the other organisms mentioned being only rare causes; and

it is to a consideration of pneumonia caused by the diplococcus that I propose to bring some facts recently brought out and bearing directly on the character of the infection and certain characteristics of the invading microorganisms.

1. PRESENCE OF DIPLOCOCCUS PNEUMONIAE IN THE RESPIRATORY PASSAGES OF MAN

We are all familiar with the fact brought out very early in the study of the pneumococcus that this organism is often present in the sputum of man. Just how frequently it occurs and what its exact localization in the respiratory passages is, certainly are not definitely settled, the results of various investigators so far varying widely. This will probably always be the case. We have, for instance, the work of Bezancon and Griffon² who believe that the diplococcus is a constant inhabitant of the oropharynx. Other investigators find it in a much smaller proportion of individuals. Again, regarding its presence in the lung, Weichselbaum¹, Babes³, and Claisse⁴ have found few or no bacteria in the sound lung of man and also of experimental animals, while Dürk⁵ has found the diplococcus pneumoniae in 12 out of 13 cases in which the normal human lung was investigated. Quensel⁶ has found bacteria in most cases in the sound lung, and Paul⁷ declares that bacteria may penetrate to the alveoli, but that under normal circumstances this is usually not the case, so that the normal lung for the most part is free or nearly free from bacteria. The diplococcus pneumoniae may be found in a considerable number of well individuals in the respiratory passages, even in the larger and medium sized bronchi. Under abnormal circumstances, as, for instance, with the inhalation of dust, a penetration of the diplococcus into the lung may be aided.

2. THE PRESENCE OF DIPLOCOCCUS PNEUMONIAE IN THE BLOOD IN ITS RELATION TO THE LOCALIZATION OF PNEUMONIA

*Read before the Southern Minnesota Medical Association, August 17, 1906.

In experimental work on animals a number of observers have produced pneumonia by injection into a vein or into the peritoneal cavity, especially when using attenuated cultures of diplococcus pneumoniae. Rosenow,⁵ in his article on pneumonia and pneumococcus infections in the Journal of Infectious Diseases, concludes, as a result of experimental work, (1) that "The pneumococcus when injected into the trachea in lethal doses is rapidly absorbed by the blood"; (2) that "when injected intravenously it may enter the alveoli of the lung within the short time of twenty-four hours"; (3) that "a typical lobar pneumonia may develop after intravenous and intraperitoneal inoculation"; and (4) * * "that pneumonia in the rabbit is more prone to occur after inoculation with attenuated pneumococci." He believes that "it does not seem altogether unlikely that the lobar pneumonia in man may be the result of a primary hematogenous infection.

3. PRESENCE OF DIPLOCOCCUS PNEUMONIAE IN THE BLOOD OF PNEUMONIA PATIENTS

In recent years there has been a considerable amount of data accumulated. I will not attempt to cover all of this ground, but will cite a few illustrative investigations.

In 1894 Sittman⁶ found diplococcus pneumoniae in 6 out of 16 cases investigated. The cultures were positive in only 4, or 25 per cent, but in 2 other cases in which the cultures were negative, the diplococci were found in coverslip preparations of the blood. He used 5 cc. of blood and made agar plates from this.

In 1897, Kühnau,⁷ investigating 9 cases, found diplococcus pneumoniae in culture in only one; this a fatal case. In another fatal case cultures were negative, but animal inoculation proved the presence of the organism. He used 10 cc. of blood in agar plates.

In 1897 Kohn,⁸ investigating 32 cases, found the diplococcus in 9, or 28 per cent.

In 1898 Sello⁹ found the diplococcus in 12 out of 48 cases, or 25 per cent.

In 1899 White¹⁰ found the organism in 3 out of 19 cases, or 15.8 per cent.

In 1900 Sylvestrini and Sertoli¹¹ got positive results in 15 out of 16 cases.

In 1901 Prochaska¹² out of 50 cases got positive results in 46.

Fraenkel,¹³ in his investigations previous to October, 1900, studied 170 cases with positive results in 34, or 20 per cent. Up to this time he used about 5 cc. of blood and made agar plates. Since 1900 he has used 8 to 10 cc. of blood. He placed this in from 50 to 250 cc. of alkaline broth, and obtained growth of the pneumococcus in nearly all cases. His results are thus similar to Prochaska's,¹² but the number of cases is still

too small to conclude that the pneumococcus is present in the blood of all cases of pneumonia.

In 1902 Cole,¹⁴ in thirty cases of more than average severity, found the diplococcus in 9, all of these proving to be fatal.

Rosenow¹⁵ in 175 cases found the diplococcus in all but 15, or 91 per cent.

We thus see that while earlier investigators, using a technic not perfectly adapted to the characteristics of the microorganism, obtained positive results in a small proportion, recent investigators have obtained positive results with great uniformity. The technic of the investigation is thus seen to be of great importance, and while the differences between the older and the more recent technic appear to be slight, yet they are fundamental.

Besides these cases of pneumonia with diplococcus in the blood, the literature contains occasional references to pneumococcus septicemia, and without pneumonia, but occasionally with localization of the organism in other organs of the body. These I will not detail.

4. PERSISTENCE OF DIPLOCOCCUS PNEUMONIAE IN THE BLOOD OF EXPERIMENTAL ANIMALS AFTER INOCULATION

Tizzoni and Panichi¹⁶ have undertaken an exhaustive investigation of this subject. They have inoculated various animals, especially rabbits, intravenously. Some of these animals were prepared by giving them a passive immunity by injection of an antipneumonic serum in the ear vein at the same time that the inoculation of a culture of diplococcus was made in the vein of the other ear. Others were prepared by inciting an active immunity by successive injections of increasing doses of a virulent culture by a method which they detail in another article. After inoculation the presence of the diplococcus pneumoniae in the blood was determined by aspirating, at various times, a few drops of blood from the ear vein, making cultures from this. As a result of their work they have found that in rabbits diplococci may be found in the blood a long time after inoculation: in one case, 130 days; in two other cases, 131 days; in one 186; and in one, 209 days after inoculation. The authors state that the organisms finally disappear from the blood, but reserve details for a later communication. This result seems to be the same whether an active or a passive, a complete or an incomplete, immunity has been established in the animals at the time of inoculation, but the amount of injected virus appears to a certain degree to stand in direct relation to the destruction of the organism in the circulating blood; i. e., the greater the amount of virus the longer the time required for complete destruction.

The species of animal influences definitely the time required for destruction of the organism in the blood. This time is much longer in animals susceptible to the pneumococcus, e. g., rabbits; and shorter in those more resistant, e. g., sheep and asses. Phagocytosis also is much more active in the resistant species.

Some facts brought out in experiments are of decided value in considering the mechanism of infection. The animal if immunized showed no reaction after the injection and remained well, but if at a later time some traumatism occurred, infection localized at the point of trauma could take place sometimes with fatal results. The cultures obtained from the blood of animals vaccinated or hyper-vaccinated with pneumococci showed changes in their microscopic and cultural characteristics and had lost completely their pathogenic and vaccinating powers.

ORIGIN, COURSE AND RESULTS OF PNEUMONIA

As to the starting point of the disease, whether it is primarily a localized infection of the lung or whether the localization is only a secondary event, we have as yet too little data from which to draw conclusions. Certain facts, however, are suggestive, such as the ability to produce pneumonia in animals by intravenous and intraperitoneal inoculation, the fact that pneumococci can be absorbed into the blood rapidly when inoculated into the trachea, and the clinical experience so often met with of rapid infection and widespread consolidation of the lung within a few hours after the exposure which acts probably by lowering resistance—all these point to the possibility, in some cases at least, of the existence of the organism in the blood before the pulmonary changes are manifest, and also the possibility that, as a rule, lobar pneumonia is only a special localization of the organism during a general septic infection. The work already referred to suggests the possibility that in certain cases the infection may have taken place long before, the individual remaining, as do experimental animals, in health till some trauma or loss of resistance allows the organisms to regain relative virulence. There is thus a latent period, and one is reminded here of analogies, such as those seen in malaria where patients may carry the plasmodia a long time without symptoms, then infection becomes suddenly manifest. Tuberculosis also may be said to give a parallel, though here it would seem that the infection is a definitely localized one. The relation between resistance of the individual and progress of the infection is here most striking. Tizzoni and Panichi¹⁹ suggest that the recurrences which are relatively so common in pneumonia may not be new attacks, but manifestations of a latent infection, and since a traumatism is capable of

lighting up a latent infection, the surgeon must exercise great care against such an event.

Rosenow¹⁸ states from his experience that cultures taken from the blood after the crisis in man usually prove sterile, but work has only begun in this field.

In an experience of my own, a patient dying of meningitis due to the diplococcus pneumoniae in pure culture, had given a history of pneumonia two years before, and showed at autopsy evidences of a former severe inflammation of one lung. No other portal of entry than this could be found on exhaustive search.

Further, as to remote and secondary localizations of the pneumococcus: there is more reason than ever to wonder why they are not more frequently found.

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COMPLICATIONS OF PNEUMONIA

By H. H. WITHERSTINE, M. D.

ROCHESTER, MINN.

Pleurisy, pericarditis, endocarditis, and meningitis are the so-called most frequent complications of pneumonia. It may be a question whether these complications exist as such, or whether they are a part of the existing or pre-existing pneumonia. These co-existing or pathological processes are due to the same cause, either by extension or systemic invasion of pneumococci through the blood stream.

Of the complications of pneumonia, pleurisy occurs most frequently. Dry pleurisy occurs more often in adults and almost never in children, while pleurisy with effusion occurs less fre-

quently in adults and more frequently in children.

Inasmuch as the pleurises occurring as complications of pneumonia are due to the pneumococcus, the streptococcus, bacillus tuberculosis, or two or more of them in combination, the effusion non-purulent at first, nearly always becomes purulent, because these germs are pus-producing germs; therefore, from the very nature of the pathogenic bacteria with which we have to contend in pneumonia, it is of the greatest importance to the patient to make, from day to day, a most careful physical examination to determine so far as possible the beginning of pleuritic effusion. It is by no means always easy to determine the early development of pleural effusion, especially in children; nevertheless, careful observation and auscultation over all parts of the chest, with the tones of light percussion and blood-tests, will lead to reasonable accuracy in diagnosis. A certain percentage of cases will run the usual course, terminating fairly well in ten days. Then in two or three days there will be effusion into the pleural sac. Temperature rises two or three degrees, and dyspnea returns.

In other cases effusion occurs before the termination of the crisis. In these latter cases the effusion compresses the lung, producing marked distress. It then becomes necessary to withdraw a few ounces of fluid to relieve the tension. In every case as soon as the pleuritic effusion becomes purulent, and before the lung has become too much compressed, it should be evacuated while the lung still has power to expand. Then it will not be necessary to resect a rib, and thus deformity will be avoided and the full capacity of the lung preserved.

Sufficiently early diagnosis of empyema should and can be made to allow evacuation before the necessity for resection occurs. When in old and neglected cases the lung has lost its power to expand, a resection is a wise procedure, because a greater deformity is thereby prevented. However, to allow empyema to go on, under observation, until resection becomes necessary is no more creditable than, under observation, to allow appendicitis to go on to rupture of the appendix or beyond the time for early operation. In cases of long standing the pleura may become perforated, when death will occur from general sepsis, whether the effusion is evacuated or not.

Pericarditis occurs next most frequently as a complication of pneumonia. Pericarditis with effusion does occur, and this effusion at times becomes purulent, which adds much to the gravity of the case. In these cases surgery offers the only remedy.

Endocarditis occurs less frequently, and then

mostly in patients with rheumatic or alcoholic history. This is a most serious complication, especially when the endocarditis is ulcerative, in which case embolism is likely to occur, making the prognosis extremely grave.

Meningitis is sometimes a serious complication of pneumonia, due to systemic involvement through pneumococci. It occurs most frequently in children, though I have seen a few very serious cases in robust adults.

In the care of all pneumonias, all the complications likely to occur should be kept in mind because preventive treatment is often of great value. Furthermore, no case of pneumonia should be dismissed until sufficient time has passed from the crisis for the development of pleuritic effusion: for, if a case is dismissed after the crisis, effusion may develop and continue beyond the time for the most favorable evacuation. Besides, every practitioner, for his own protection, should see his case of pneumonia within ten days after the crisis has occurred, to determine whether any complication develops.

SYMPTOMS, DIAGNOSIS, COURSE, AND PROGNOSIS OF PNEUMONIA

BY E. H. BAYLEY, M. D.

LAKE CITY, MINN.

Pneumonia is a disease characterized by a sudden onset, and the patient has the appearance of one in that condition in which something pronounced is taking place. It frequently follows an attack of la grippe, or conditions that have produced a low vitality of the general system, such as exposure to cold or exhaustion from mental or physical work.

When you are called to see a patient he will be in bed, and will give the history of a chill or vomiting or both, with acute pain in the affected side. The cheek on the affected side is flushed. He lies on this side, is panting, and the *alæ nasi* dilate forcibly during inspiration, and there may be herpes on the lips or nose. He has a harassing cough with little, if any, expectoration. The temperature is from 103.5° to 105°; and the pulse is rapid.

The disease affects the respiratory, circulatory, nervous, digestive, cutaneous, and uremic systems with symptoms peculiar to each. In the respiratory system, the respiration is 30 to 60 per minute; the pain is acute and stabbing in character, and is usually referred to the region immediately below the nipple or to the axillæ or abdomen; there is a short and dry cough, one that is voluntarily repressed by the patient. The sputum is thick, tenacious, and of a yellow or brown color, and under the microscope the pneumococci of Fraenkel are found.

The physical signs peculiar to this system which must not be neglected can be divided into three stages; 1st the stage of congestion; 2d, the stage of consolidation; 3d, the stage of gray hepatization or beginning resolution.

In the first stage inspection reveals the respiratory movements on the affected side diminished; auscultation gives the sub-crepitant râle, while palpation and percussion are nearly normal.

In the second state, inspection shows little expansion with the greater volume of the thorax on the affected side and increased expansion of the well side. The vocal fremitus is increased unless obliterated by a pleural effusion. Percussion of the lobe or lobes affected gives a dull sound. Auscultation shows tubular bronchial breathing, and a crepitant râle is produced at the end of respiration.

During the third stage the expansile motion of the affected side gradually returns. The dull note of percussion is gradually lost although traces of it may remain for some time. The subcrepitant râle returns, bronchial breathing is replaced by bronchio vesicular breathing, and later by normal breathing.

The symptoms referable to the circulatory system are pulse-rate 90 to 110 per minute; if above 120 per minute it shows heart-weakness. At first the pulse is full and bounding, later the tension may become low. In unfavorable cases the pulse becomes irregular, and the heart rapidly becomes exhausted.

By investigations Edward C. Rosenow, of Rush Medical College laboratory, determined that the pneumococcus can be obtained from the blood in practically all cases of croupous pneumonia; that the number of pneumococci in the blood and their viability diminish at the time of crisis; that the number of leucocytes found in the blood is an index to the resistant power of the patient; that the production of acids by pneumococci in pneumococcic serum suggests that some of the toxic symptoms of pneumonia may be due to acid intoxication.

The cerebral symptoms are headache, in children convulsions, and in drunkards delirium tremens. Severe cases of cerebral pneumonia may develop a meningitis.

The cutaneous symptoms are nasolabial herpes, appearing from the second to the fifth day, and the red-flushed cheek on the affected side and copious perspiration at the time of the crisis.

The digestive system presents the tongue coated yellow, the mouth dry, and the bowels constipated.

The symptoms referable to the urinary system are a diminution in the amount of the urine,

which is highly colored and presents the febrile characteristics; excess of uric acid, and a diminution or a total absence of the chlorides. The recurrence of the chlorides is a favorable condition, as it suggests the approach of the crisis. Traces of albumen may be present.

COURSE AND DURATION

In favorable cases the fever lasts from three to ten days, and ends by crisis, the resolution of the lung taking from a week to ten days longer. Complications and sequelæ often prolong the course of the disease, so that it lasts from two to eight weeks. It may terminate in complete resolution, in delayed resolution, with complications, or in death. During the winters of 1903-1904 and 1904-1905 the death-rate from pneumonia exceeded that of consumption. The mortality has ranged from 10 per cent to 25 per cent, being dependent upon the locality, the severity of the type of the infection and the conditions and the surroundings of the individual.

The disease is to be differentiated from—

- (a) Acute pneumonic phthisis.
- (b) Pneumotypoid.
- (c) Meningitis.
- (d) Bronchopneumonia.
- (e) Acute pleurisy.
- (f) Appendicitis.

The characteristics peculiar to lobar pneumonia are—

1. A chill and fever of a continued type.
2. A short duration of fever, usually culminating in a crisis and a profuse sweat.
3. Herpes common.
4. Cough and expectoration of rusty, sticky, and tenacious sputum, containing the pneumococcus.
5. Presence of the pneumococcus in the blood.
6. Pain in the side and physical signs referable to one or more lobes of the lung.
7. Signs of lung consolidation, followed by resolution, complications, or death.
8. Apex of healthy lung normal.
9. Prognosis favorable or unfavorable, according to individual and diseased conditions.

The prognosis depends upon—

1. The individual heart-power.
2. The septic intoxicating power of the endemic pneumococcus.
3. The range of the fever, 105° or over being unfavorable.
4. Delirium, delirium tremens, or meningeal involvement.
5. The area of the lung involved, whether one or more lobes, and whether it migrates from one lobe to another. I have seen just as severe symptoms and heart disturbances when only a small area was involved as when a large one.

6. The age and presence or absence of complications.

7. The ability of the blood to develop a large number of leucocytes.

8. Death results from heart-failure due either to the effects of the pneumotoxin on the heart or from heart-failure due to over-work as a result of a large extent of the lung being involved.

Unless the signs of approaching death are imminent, do not give an unfavorable prognosis, because we have all seen very unfavorable cases recover.

SUPERFICIAL LESIONS CAUSED BY THE DIPLOCOCCUS PNEUMONIAE

By E. S. JUDD, M. D.

ROCHESTER, MINN.

In the past few months six cases have come into the clinic at St. Mary's Hospital, Rochester, showing that the diplococcus pneumoniae may be the cause of lesions in the skin and superficial tissues, as well as in the lung and pleura. A number of cases have been reported where an abscess, either deep-seated or superficial, was found complicating pneumonia or grip or an otitis or osteomyelitis was caused by the pneumococcus. One of these six cases had had pneumonia four years ago, and only one had recently been exposed to the infection so far as they knew. Three of these cases were essentially skin lesions. One, a man, 60 years old, farmer, with an indefinite neurotic complaint, developed a watery bleb on the back of his left hand while he was being held for examination. The bleb developed to the size of a 50-cent piece, and broke. He complained of constant pain and tenderness all through the back of the hand. At the end of 48 hours there was a dark reddish-blue areola, one-fourth inch deep, about the entire lesion. In another 24 hours this areola had become black and neurotic like the part in the center, and the skin sloughed and came off in the dressing. This process of congestion, necrosis, and sloughing after several days stopped on one side of the ulcer, and new skin extended out into the granulations, but on the other side it continued until it had gone over the entire dorsum of the hand and wrist. This covered a period of five weeks. The process during the entire time was practically local,—the temperature ranged from normal to 100.5°, with the exception of about three days at the end of the third week when the arm suddenly swelled, and the temperature rose to 103°. This was attributed to a secondary infection, and

had no effect on the primary ulcer. Formaline, one-half of 1 per cent, was the only remedy that seemed to limit the process in any way. This was used as a wet dressing twice each day during the last two weeks. At the end of five weeks from the beginning, the process had subsided, and the hand was healed. In a letter written several weeks after the patient was discharged he said the process had started again in the same place, but had promptly responded to treatment. Smears and cultures taken showed this to be a pure pneumococcic infection.

The second case was a farmer 34 years old; never had had pneumonia. On first of February a watery blister came on the back of his neck and broke, and he had an open ulcer for about three weeks, when a similar blister came on his back, and before this had healed another came on his shoulder. Each of these had lasted about three weeks and healed; then a condition just the same appeared on the scalp. This was much more persistent, and it was for this that he came to be treated. The ulcer was the size of a dollar when he came. It had extended through the skin and superficial fascia, and then through the periosteum so that the floor of the ulcer was formed by bone. At one point the bone had necrosed away, and the meninges and distinct pulsations could be seen. The edges of the ulcer were perpendicular, red, and granulating, and were very sensitive. He complained of intense headache and pain radiating down his back, showing involvement of the meninges. Smears and cultures showed the pneumococcus in pure culture. The ulcer was cleaned with peroxide, and the necrosed bone removed. He was allowed to go home. Report since then would indicate an extension of the meningeal involvement, as the pain in his head increased and he had several convulsions.

The third case, a farmer 25 years old, had boils on his neck seven years ago, and says that four years ago he had lung fever. Two weeks ago a pimple came on the lower lip at the skin edge, gradually increased in size until the whole lower lip was three times its normal size. Lanced at home at end of first week, and some thick pus escaped, but the process continued until the entire lower and upper lip and the greater part of his neck were very swollen and red. Cultures taken showed almost pure pneumococcic growths. There were a very few staphylococci. Under an anesthetic a number of openings were made, and a very thick, almost caseating, substance escaped. This could be squeezed out of the indurated part at almost any point. The sinuses were treated with carbolic acid, and a formaline dressing put on. The result cannot be reported, as the case was first seen two days

ago. This is by far the most virulent case, the temperature ranging from 102° to 102.5° in the axilla. It is the only one of the cases that has ever had pneumonia, and was exposed five weeks ago to the infection when visiting a cousin.

The next three were operated cases. They were all clean cases, and all were operated upon within six days. The first had two wounds: one for gall-bladder exploration and one for appendectomy. Both wounds became red and indurated. On the seventh day the temperature was 101° . Cultures from both wounds showed pure pneumococcic growths. On the eleventh day the temperature was normal, and remained practically so until he was well. The wounds discharged a seropurulent substance for ten days, and were healed when he left.

Another case was a McBurney incision in a chronic appendicitis case; temperature 100° evenings; slightly lower mornings during first three days; wound, red and indurated at one point, opened and discharged slightly. It healed, and he left the hospital on the ninth day.

The third hospital case was a mixed pneumococcic and streptococcic infection in a wound following a stomach operation. This ran a typ-

ical course of streptococcic infection.

Clinically these cases could not have been diagnosed. The three operated cases were in no way different from cases infected by other organisms except that they were very mild. The lesions on the hand, scalp, and face looked like a combination of sycosis and carbuncles or a superficial cellulitis.

The source of these infections must have been through the secretions from the mouth or throat of some one who was host to the pneumococcus at that time. Wells says that he has never examined a person who has previously had pneumonia that he did not find the pneumococcus, no matter how long the intervening period. One writer says he has had them in his throat constantly for a quarter of a century, but has never been the subject of pneumonia. Levings in his bacteriological examinations of the mouths of all classes of people finds them present in about 35 per cent. They are carried from the mouth by coughing, sneezing, or talking, usually in small particles of saliva. Knowing of no other avenue of infection by the pneumococcus, especially in operated cases, it seems reasonable to believe the most common source is from the mouth.

SOME EXPERIENCES IN OBSTETRICS*

BY CHARLES T. GRANGER, M.D., AND GEORGE T. JOYCE, M.D.

ROCHESTER, MINN.

In presenting this paper we have made no attempt to evolve any original or startling ideas, but have simply made an analysis of our cases and their treatment.

During the past two years we have been keeping a record of our cases of obstetrics. Prior to two years ago we did not do so, but the keeping of records is a practice which we intend to continue. A carefully kept record becomes in time a sort of text-book, and one should carefully record failures, since it is "from shipwrecks that we learn to build ships."

During this period we have attended 245 cases. Of this number 66 were primiparæ and 179 multiparæ. In this series of cases there were but two pairs of twins, of which, in either instance, the larger and more robust of the two died. The death of one was caused by pneumonia supervening upon measles, and the other died from an attack of enterocolitis.

The largest infant we have delivered weighed eleven and one-half pounds, and the smallest, two and a half pounds.

The oldest mother we attended was forty-five, and the youngest fifteen years of age. The fifteen-year-old mother was an epileptic, but went through her pregnancy and labor in better health than she had enjoyed for a number of years. We have not found that labor was complicated by age, as some of our easiest cases have occurred in primiparæ well past thirty years.

ABNORMAL PRESENTATIONS

In this series of cases, we have not had a face presentation, but one case of placenta previa, and not a single case of a shoulder presentation in a full-term case.

We attended Mrs. B., aged about thirty years; multipara. She was pregnant seven and one-half months, and had been having some pains and slight hemorrhage for several days. We were called early in the morning, and found her in labor with the cervix well dilated. A shoul-

*Read before the Southern Minnesota Medical Association, August 17, 1906.

der was presenting, and while the patient assured us that she had felt motion during the night, fetal-heart sounds could not be heard. In endeavoring to reach a foot, a loop of the cord was taken between the fingers and torn across as if it were wet paper, a smart hemorrhage immediately ensuing. The feet were finally brought down, and the trunk delivered; but the cervix contracted tightly about the head. While making slight traction on the trunk—Smellie-Veit method—the head separated from the body of the child, and on making an effort to deliver it with forceps, the placenta became partly separated, bringing on a dangerous hemorrhage. The head would roll out from the forceps blades, and a heavy placenta forceps could not be made to grasp firmly enough to deliver. A finger was finally introduced into the mouth, pushed into the posterior nares, and the head worked through the cervix and delivered from the vagina with forceps. The child had evidently been dead for some time, as the extremities were macerated and edematous.

We had one transverse presentation without the hand or elbow presenting. A true transverse position of the trunk and a version resulted in a living child. A curious feature in connection was that the father was 70 years old, and that this was his twenty-third child.

We had 20 occipitoposterior positions, and while in most of the cases labor has been prolonged, it has not been found a serious complication.

INSTRUMENTAL DELIVERY

We have made 38 instrumental deliveries in this series of cases, a percentage of less than fifteen and one-half. In a few of the cases delivery has been effected with short forceps, but usually with Tarnier's axis-traction forceps, with the axis-traction rods removed for the low forceps cases.

INJURIES TO THE BIRTH-CANAL

A large number of our primiparæ have had lacerations, and also a number of the multiparæ. We have been using catgut as a suture material for the past year, and find that patients do not complain of the discomfort of the sutures as they did with silkworm gut, and that the catgut holds for a sufficient length of time for union to be established. Since we have taken to the use of the Tucker perineal retractor, which is made to resemble, and acts on the same principle as, a shoe-horn, we have been able in some instances to avoid lacerations.

INFECTION

We have had one case of puerperal infection. It occurred after an unusually difficult high-forceps delivery, followed by the manual removal of the placenta necessitated by hemorrhage. In

this case we gave repeated intra-uterine douches of fifty-per-cent alcohol, and kept a small alcohol pack in the uterus for two days. Our patient made a good recovery.

Elevation of the temperature in the puerperium during the first twenty-four hours is so frequent that it may be said to be physiological, and is, perhaps, to be explained by the change in the circulation. A first labor, or prolonged dry or instrumental labor, or labor followed by lacerations, may be expected to show slight rise in the temperature. Temperature may be purely psychical. Lackie mentions a case in which an extremely nervous woman developed a temperature of 105°F. on the fifth day. The only cause for the temperature seemed to be the continual anxiety, and the treatment decided upon was a good scolding. It immediately worked wonders, but the author does not state whether the husband or the physician administered the remedy. The fact that hospital mortality for puerperal septicemia is practically nothing, while the domicile mortality is nearly as high as it has always been, has brought the responsibility home to us in such a way that we must at least confess to a feeling of remorse if a case occurs in our practice. Progress must be looked for in preventive measures. The cases are so few in which the infection is present in the uterus before labor that they are practically not to be considered. In the establishment of a perfect technic there are two things to be emphasized: one is the routine use of rubber gloves; and the other the avoidance of frequent examinations. And perhaps of equal importance is the disinfection and preparation of the patient. And it is right here that the old woman of the neighborhood shines, and shines with about the same lustre as a rotten mackerel.

The failure to secure uterine contractions is perhaps responsible for some cases of sepsis; as a mass of clots is certainly an ideal culture medium. The administration of ergot for several days, and the fact that patients are not kept flat on their backs, are steps in the right direction.

The care of small wounds around the perineum, should not be left entirely to the nurse; they should be examined frequently, and if necessary touched with carbolic acid. Except in rare instances there is no reason why the patient should not sit up in bed after the second or third day, and the lochial flow is helped by occasionally changing the position, and turning the patient on her face for a few moments once or twice a day. It is now an idea almost universally accepted that a vaginal douche is more productive of harm than good, as a douche at this time is necessarily intra-uterine, and is liable to carry infection into the uterus.

The common causes of non-septic fever are constipation, errors in diet, and emotion. If these three can be ruled out, sepsis must be looked for. But if we are as careful as a conscientious surgeon in the preparation of our hands, and see that all instruments and dressings are boiled; that the external parts of the patient are properly cleansed; if we make few examinations, and those with no lubricant; and if we do not go from a contagious case to one of confinement, should trouble arise, we can lay it at the door of the nurse with a serene and cheerful countenance.

PROLAPSUS FUNIS

According to Winckel this accident happens once in every 500 cases, but Churchill's statistics show an average of 1 in 107 cases. We have had three cases, with the loss of two infants. In the first two cases the cord prolapsed with the rupture of the membranes, and in spite of diligent efforts it could not be replaced, as the pains were hard and almost continuous. Forceps was applied, and delivery effected as rapidly as possible, but these two cases were primiparæ, and delivery was necessarily somewhat slow. In the third case, the cord was replaced with the hand, and held up until the head was engaged, and a live babe was born without difficulty.

HYDRAMNIOS

We have had two cases of hydramnios. There was no difficulty encountered in either case, but we took the precaution to give a hypodermic of ergotole during the third stage, and secured prompt uterine contractions.

HEMORRHAGE

We have had four cases of hemorrhage during the third stage from a partial separation of the placenta. One case bled furiously, and did not stop with the removal of the placenta. A hot intra-uterine douche and massage of the fundus did not seem to affect the flow at all. Ergotole, hypodermically, did not check it, and we packed the uterus with gauze saturated in sterile vinegar, a bottle of which we have made a practice of carrying in our outfits. This procedure controlled the hemorrhage at once.

One of our cases had a secondary post-partum hemorrhage twelve days after labor. The patient was up and about the house when the bleeding began. The vagina was packed, and the patient put in bed. The hemorrhage recurred in four days, and again after three days. She was then taken to the hospital, and a curettage done. Nothing abnormal was found in the uterus, and the condition was supposed to be due to some peculiar degeneration of the placental site, as the bleeding continued at intervals for several weeks, growing less with each appearance.

We had one case of concealed hemorrhage in an eight months' pregnancy. The patient had been attacked with pains early in the evening, and a slight hemorrhage was apparent, which soon ceased. The pain, however, increased, and the family, becoming frightened at the pallid appearance of the patient, sent for us. The appearance of the patient was indicative of a severe hemorrhage, but there was little blood to be seen. Examination revealed the uterus high in the abdomen, and palpation through the abdomen gave a peculiar, dense feeling. The pain was complained of as being constant and much different from ordinary labor pain. A rapid dilatation and high-forceps delivery was followed by an enormous rush of blood and clots. The hemorrhage ceased promptly upon the removal of the placenta.

In treating hemorrhage, a maxim of Napoleon seems trite: he "had conquered two-thirds of Europe because the enemy did not know the value of five minutes." The physician who has his mind on a dozen different methods for controlling a bad hemorrhage, and is trying all of them at once, will not do effectual work. The most effective method of controlling hemorrhage, one which has not failed us, is the intra-uterine pack.

TOXEMIA OF PREGNANCY

We have had four cases in our own practice. The mothers and three of the babes recovered. One infant died from a convulsion on the third day. In the treatment of the toxemia, elimination is first to be thought of, and all means adopted towards the securing of catharsis, diuresis, and diaphoresis. But in considering the medical treatment, one must bear in mind that a kidney already injured, will be only harmed by the administration of powerful diuretics.

With venesection, we have had no experience, but it would appear to be a logical procedure, and worthy of more frequent application.

For the immediate control of the convulsions, we may consider chloroform, morphine, and chloral, but the danger of an anesthetic to a degenerated heart and toxic blood must not be forgotten. The medical treatment of this condition is frequently inadequate, and operative measures must be enforced before relief is secured.

ADHERENT PLACENTA

We have had several cases in which the placenta caused some trouble. In four of our cases the partial separation of a normally implanted placenta, and the resulting hemorrhage, compelled the manual removal of the placenta. We have seen but one case of true adherent placenta. This was an elderly German woman who had been attended by a midwife—one of the sort who

carries the same bottle of goose grease about with her from her first case until she is called to what, let us fervently hope, is a warmer climate than Minnesota. The babe had been born in the forenoon, and we were called at 8 o'clock p. m., as the midwife was unable to deliver the placenta. She had evidently had her hand in the uterus a great many times, as the placenta was torn and bits of placental tissue were found in the vagina. It took considerable time to peel it loose, and when that was accomplished we gave the woman a hot lysol douche, and in spite of dirty hands, goose grease, hemorrhage, etc., the patient recovered promptly.

ANOMALIES OF THE FETUS

We have seen one case of encephalocele. In this instance the large fluctuating sac so obstructed the hand that a diagnosis was impossible until the presenting part had nearly reached the vaginal outlet. The sac ruptured as it was emerging, yet the child lived six days.

We had one case of imperforate anus. The child was subjected to an early operation, and for two days gave promise of recovery, but died suddenly on the third day.

We have had three cases of fetus papyraceus. In one instance we prescribed in the early months of pregnancy for morning-sickness, and lost sight of the patient for about seven months, when we were called, and found the woman in labor, but with no perceptible enlargement of the abdomen. In a short time she gave birth to a mummified fetus. The woman had not menstruated since she visited our office, and had supposed she was pregnant, and wondered why the abdomen did not enlarge.

Curiously enough, our other cases occurred in the same week. Both labors were normal, and there seemed no abnormal enlargement of the uterus after the completion of the third stage, yet the next day in each case a small mummified fetus and placenta were passed.

In making an analysis of these cases, and going over the treatment of the various conditions mentioned, we are impressed with the value of the teaching of some of the older men. There may yet be value in the advice of Paul to the Thessalonians: "Prove all things, and hold fast that which is good."

A CASE OF TETANY

BY L. C. WEEKS, M. D.

DETROIT, MINN.

H. W., aged 31, American, married eight years, mother of two children, aged seven and four. Previous to marriage she had spent four years in the high school, and three years in

teaching. She was admitted to the Detroit Hospital April 19, 1906, complaining of dull pain in the right lumbar region just above the middle of the crest of the ilium, and also gave a history of tonic spasms of various groups of muscles dating back to about the middle of the first pregnancy. These spasms occurred at varying intervals and at various times, but usually when she was tired and nervous and attempted to rest, especially in the evening, either before or after retiring. Attacks before or after monthly periods were more severe. After the birth of her first child the attacks ceased for a time, but the increasing care of the child seemed to bring them on again. During her second pregnancy they gradually became more intense, and after the second confinement were very annoying. Walking, sewing, slight over-work, visitors, and the menstrual periods would bring on aggravated attacks of almost nightly occurrence, besides occasional attacks during the day.

The flexor muscles were most involved. The forearms would be flexed on the arms and drawn across the breast, the chin drawn down, the legs flexed on the thighs, and the thighs flexed on the body. Spasms of the extensors would sometimes alternate with these of the flexors so that one moment the patient would be huddled up in bed, the next all limbs extended, the successive changes being made with remarkable rapidity. After from five to ten minutes the attacks would gradually cease. At no time was there loss of consciousness or any mental symptoms.

On admission to the hospital diagnosis of chronic appendicitis was made without reference to the spasms. An appendix showing chronic interstitial changes was removed. Examination of the ovaries, uterus, gall-bladder, and kidneys was made, and they were found normal. The ether caused an acute laryngitis, so that the patient could not speak above a whisper for a week, and there was an attack of urticaria beginning the second day after the operation, which lasted three or four days. Otherwise recovery was uneventful.

Nearly a year has elapsed since the operation, during which time the patient has taken a long and rather exhausting journey, has had two moderate attacks of cystitis, and has become pregnant a third time with recurrence of spasms upon only two or three occasions. These attacks were of a very light character, were evidently caused by the constipation incident to the early months of pregnancy and were associated with a feeling of soreness over the former site of the appendix. A post-operative diagnosis of tetany was made, it being considered that the irritation from the appendix was the exciting cause.

ROCKY MOUNTAIN SPOTTED FEVER

PRELIMINARY REPORTS

BY WM. CHOWNING, A. B., M. D.

MINNEAPOLIS

About a year ago in a paper read before the Minneapolis Pathological Society, I reported the results of microscopical study of blood from nineteen cases of Rocky Mountain spotted fever. My report at that time had reference to an organism found in all these cases, which, to me, appeared to belong to plant, rather than animal life.

The present supplementary preliminary report is to cover the work done during the past year on the blood, urine, bile, and other body fluids and tissues from organs, etc., of nine additional cases, together with the work done by the writer on blood, body fluids, and tissues of inoculated sheep, rabbits, and guinea-pigs, and artificial cultures from both human and inoculated cases which occurred in 1906, all with reference to forms exhibited before the Society at that time and confirmed by study during the past year on the additional material. This work includes also experiments on toxicity of cultures and inoculation of animals with cultures.

My statement of a year ago that the organism seemed to belong to the fungi was based largely upon the marked pleomorphism constantly present and the great irregularity in staining. Branching forms, spheres, ovoids, clubs, dumb-bell forms, "nucleated" hyphae, spores, spore-cells, and rads are persistently found in the same specimen and often in the same field.

Under such stains as Giemse's and the various modifications of Nocht Romanowski, and especially under a combination of borel, blue carbol, thionin, and eosin similar to that employed by Nocord and Motus, these bodies assume a myriad of fantastic but highly deceptive forms. Under these stains, as well as under the more common, simple stains, the organism stains very irregularly. This irregularity of staining and irregularity in forms is characteristic of some fungi.

I am indebted to Dr. H. T. Ricketts, of Chicago, who requested the privilege of entering the field in 1906, for dried, unfixed, and unstained microscopical specimens from a monkey and a guinea-pig which were inoculated by him with blood of a case which occurred after I left the field in 1906. Both sets of Dr. Ricketts' specimens are confirmatory of my own work.

A CASE OF STRANGULATED HERNIA*

BY C. H. HUNTER, M. D.

MINNEAPOLIS

At an early hour of the morning in October I was called to see Mr. Pea, who was suffering from a strangulated hernia. The hernia had been down since eight o'clock the previous evening. Taxis under chloroform failed to relieve the strangulation. The tumor mass was the size of a large fist. At eight o'clock the following day about twelve inches of the sigmoid flexure was released and reduced, and the opening closed after the manner of Halsted. The notes of the nurse show that there was considerable vomiting and straining.

On the eighth day the dressings were removed, and the wound completely healed. I was, however, startled to find a pulsating tumor the size of a pullet's egg near or over the femoral, an inch or more to the outside of the incision. A finger could be put in the depression between the scar and the pulsating mass except at its upper portion where they seemed to coalesce. At a point apparently a little inside of where the external iliac becomes the femoral, deep pressure could stop the pulsation in the tumor mass. My first thought was that in some way we had wounded an artery or vein or possibly the femoral artery, and hence the aneurism that was plainly present. The anesthetist and myself, however, recalled a noticeable pulsation of the femoral as the patient lay on the table. It was not, however, noticeable enough to lead to an examination of the artery, so there was some doubt as to whether there was some fusiform dilatation of the vessel present before the operation or not.

The pulsation was so marked and the walls apparently so thin that some alarm was felt lest the vessel rupture. Compression over the point at which pulsation could be stopped was undertaken with a truss arrangement held in position by a nurse, and kept up for some fourteen hours with much distress and no favorable results. It was not perfectly clear whether we had to deal with a varicose aneurism or a true aneurism of the femoral artery.

Operation was determined upon and incision over the tumor laid bare a thin walled fusiform aneurism of the femoral artery. The external iliac was exposed above, and a light band of gauze drawn underneath it. An assistant holding this taught stopped the pulsation completely. An incision into the sack exposed a small blood-clot and the artery wall covered with stellate and serrated scars completely surrounding the

*Presented to the Hennepin County Medical Society, Dec. 5, 1906.

interna of the artery on its posterior and inner surfaces, while the remaining part was included in the bulging aneurism, into which the thumb could be comfortably placed. There was then no healthy artery wall with which to make a new artery by a Matas operation. This idea was abandoned, and the external iliac ligated with stout silk. There was no room to ligate the common femoral below, so the femoral and circumflex were ligated separately. A light packing of iodoform gauze was placed against the bleeding point in the iliac vein which served to stop the bleeding and also for drainage which it was thought desirable to institute. The rest of the wound was closed by suture. The foot and leg were then enveloped in cotton, and the patient put in bed. The pulsation at the ankle was soon recovered. The toes, however, were blue, and three spots about the size of a nickle appeared on the three outer toes. There is a very superficial slough at the very tips of these toes. There

has been uninterrupted healing, and the patient is now about, and the wound almost completely scabbed. This man is thirty-three years old, and has been a painter the past nine years. All of his vessels are arteromatous. The brachials and radials are particularly tortuous, hard, and pulsating. The opposite femoral could be easily palpated. He has never had colic, wrist-drop, or other symptoms of lead poisoning that he was aware of. My idea is that the weak femoral artery gave way in the straining of vomiting following the hernia operation, and that the aneurism into which the thumb could be placed on the outer wall of the vessel formed suddenly at this time. No connection between the hernial scar and the vessel was apparent.

Ligation of the external iliac is not an operation that always is successful, so far as the preservation of the leg is concerned. The three black spots on the toes would deter one from undertaking it lightly.

PHYSIOLOGIC CHEMISTRY

CONDUCTED BY

RICHARD OLDING BEARD, M. D.

Professor of Physiology, University of Minnesota

ASSISTED BY

J. P. SEDGWICK, B. S., M. D.

Instructor in Physiologic Chemistry, University of Minnesota

RECTAL FEEDING

The *post-hoc propter-hoc* argument is still in evidence in modern medicine, and apparently still commends itself to the minds of many good men.

A surgical authority, recently addressing one of the state organizations, commented upon rectal feeding in a certain class of disorders, and advised the employment, for the purpose, of beef-tea, defending his counsel gravely upon the mere strength of the clinical *post hoc*. That he is not alone in this clinical teaching makes it desirable that the conflict between such purely experiential conclusions and the experimental evidence in the case should be shown. Raw eggs, raw milk, cod-liver oil, etc., have been recommended frequently for "nutrient" enemata.

It may be said of all such rectal feeding—it should go without saying:

1. The rectum is not, *per se*, an organ of digestion. It has no secretion of digestive power. Occasionally, traces of pancreatic ferments have been found in the fecal débris. They are usually destroyed before they reach the organ of defecation. Conditions favorable to their digestive action, if they do persist, are not present in the rectum. In the absence of digestive possibilities, it follows that peptones, nitrogenous extractives, maltose, lactose, and dextrose, (among the sugars), water, and salts are the only nutritive materials possible of absorption.

2. The rectum is not, *per se*, an organ of absorption. The special agents of absorption, notably the villi, and the simple and compound lymph-nodes, are absent from the lower bowel.

Even the solitary glands, sparsely found in the colon, are not present here. Moreover, the rectal pouch, in which enemata always lie, includes only the lower two-thirds of the organ, and its blood-vessels drain into the internal iliacs, instead of into the principal avenue of absorption, the portal system, as does the bowel above, through which the products of digestion—and notably those cited above—are conveyed to the liver-cells.

It follows that the ordinary introduction of even predigested nutrient enemata into the rectum is an invitation to failure, both of food absorption and subsequent food elaboration. It is only by delivery of selected and predigested materials into the sigmoid, or, better still, the colon of the recumbent body that any positive contribution to nutrition is made.

3. Animals, including human beings, starve upon aqueous extracts of meat-foods. If this is true when these extracts are fed by the mouth, it is far more true when they are fed by the rectum. A large soup-plateful of beef-tea has a food-value of seven calories. The average adult requires twenty-eight hundred calories a day. Imagine the delivery of four hundred platefuls of beef-tea by the bowel, where its scanty nutrients are scantily available.

As a matter of physiological fact, the common practice of rectal feeding, like that of typhoid feeding, affords an excellent illustration of the capacity of the human being to starve. In this field, as in many another of clinical practice, a need for the cultivation of the sub-soil of modern medicine by the application of physiologic principles is indeed apparent.

BEARD.

ORTHOTIC ALBUMINURIA

The first complete study of a case of orthotic albuminuria, including clinical observation, chemical examination of the urine by a competent physiological chemist, and post-mortem examination of the organs, was reported by Heubner to the Berliner med. Gesellschaft, and appeared in the *Berliner klinische Wochenschrift* for January 7, 1907.

The "physiological albuminurias," as studied by v. Leube, Stirling, Pavy, and others, have naturally caused a great deal of discussion and have been of great interest, because of the question of their exact significance. Heubner has proposed the name "orthotic" ("orthotisch") to replace the older term "cyclic," of Pavy. This change is proposed because the cyclic appearance of the albuminuria is dependent upon the position of the patient; appearing only when he is standing erect ("orthostatos") and disappearing when he reassumes a recumbent position.

Heubner has for some time taught that this

condition, to which children are especially subject, does not depend upon a causal inflammation of the kidney itself. The case under discussion is that of a ten year old girl, who was under observation for two years, at the end of which time she died of a gliosarcoma of the left hemisphere. Although during this whole period she had shown albuminuria when erect, and not when lying down, the post-mortem examination showed no inflammatory condition of the kidney, sufficient to account for the proteinuria. A scar in the apex of the left lung is also of interest in connection with the belief of certain French authors that this form of albuminuria is not rarely a pretuberculous phenomenon.

The chemistry of the urine, as well as the metabolism of Heubner's case, was studied by Langstein, who found in this case, as others have found before, that a protein substance that can be thrown down by acetic acid, was present. Langstein divides the cases of orthotic albuminuria into three types: (1) Those in which the protein substance precipitable by acetic acid alone is present; (2) those in which the above mentioned protein and true albumin are both present; (3) those cases in which three proteid bodies are present: that thrown down by acetic acid alone, a globulin, and an albumin.

Langstein uses the following technic in the routine examination: Two test-tubes are filled to the same height with urine, and a few drops of diluted acetic acid are added to each and both are shaken for a few minutes. The two samples are then diluted 3 to 4 times with water and a few drops of potassium ferrocyanide solution added to one. This gives a ready comparison between the amounts of the different proteids.

The conclusions which he draws from his study are—

1. There is no orthotic albuminuria, in which the proteid precipitable by acetic acid, is not present. It is present in each proteid-containing, urine specimen.

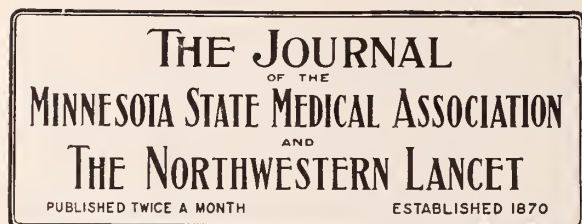
2. Cases in which the acetic acid precipitable proteid alone is excreted, are characteristically different from cases of chronic nephritis.

3. In chronic nephritis of children, the proteid precipitable by acetic acid is either not present at all, or in smaller quantity than the other proteids.

As regards the character of this proteid, thrown down by acetic acid, Langstein considers it fully demonstrated that it is not a true nucleoproteid, as he was able to find but traces of phosphorus therein, although large quantities of the substance were at his disposal.

This one thoroughly studied case is certainly a valuable contribution to the subject.

SEDGWICK.



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FOR THE CRIMINAL INSANE

S. F. 389, a bill introduced by Senator Dar Hall, appropriates \$50,000 for a building to be known as a State Asylum for the Dangerous Insane, "for the purpose of holding in custody and caring for such insane persons, idiots, imbeciles, and epileptics as may be committed thereto by courts of criminal jurisdiction or otherwise, or transferred thereto by the board, and for such persons as may be declared insane while confined in any penal institution, or who may be found to be mentally infirm and dangerous." The bill also provides for the temporary removal from some other institution and a return thereto when sufficiently the patient is restored mentally.

Such an institution is much needed in Minnesota. Many of the older states have separate hospitals for the criminal insane, operated and conducted for the protection of the sufferer and the general public. The Board of Control is empowered to locate the hospital near a state hospital, asylum, or state prison.

It is to be hoped that the Board will decide to locate it away from any of the established institutions. The erection of a hospital for insane criminals should be as far from a hospital

or prison as is possible. Although the institution is essentially a hospital it must be equipped with such surroundings as will prevent escapes or elopements, and yet it should not be in the shadow of a hospital for the sick who have no marked criminal tendencies. Unless ample provision is made for a complete institution, the care of the criminal insane should be left as it is—adjacent to the penitentiary.

Specially trained men are required as superintendents, medical men who are familiar with penal methods. A model institution could be used for the observation of suspected or indicted insane criminals or those who seek to excuse their crimes on the ground of insanity or those who have set up insanity as a defence. A few weeks or months of observation at a hospital for insane criminals would save the state or the relations of suspected cases a great deal of expense. When a criminal pleads insanity in a court, and is found to be sane, after a residence at such an institution, the trial court could complete its labors in short order, and thus avoid a long-drawn-out trial. The newspapers would have less nauseating "news," and the general effect would be wholesome and frequently preventive.

DR. OHAGE'S RETIREMENT

Dr. Justus Ohage, the Commissioner of Health in Saint Paul, and one of the foremost sanitarians in this country, is to be retired from office by the political gang. The only excuse the mayor offers is, that Dr. Ohage is too domineering. "When Ohage gets an idea in his head nothing can move him," says the mayor. The Minneapolis Journal says of him:

"Dr. Ohage is of that type of public official which the public is always looking for, always tiring of, and always after a period of milk-and-water administration coming back to. As health officer of St. Paul, he was untiring in his labors for the city. He conceived plans—and carried them out. He read laws—and enforced them. He looked on the public—and refused to know either friends or foes. He was impartial, strenuous, obstreperous toward malefactors and kindly only to those who were or promised to be good."

It is a well-known fact in St. Paul that the mayor would like to reappoint Dr. Ohage, but the powers behind the throne are running the city's politics, and the mayor has no choice in his selection. The politicians are not very much interested in sanitary matters: their game is politics, and if a medical man dares to express an expert opinion that interferes with the game, the medical man always loses.

Dr. Ohage's retirement is an unfortunate move for the political checker players as Saint Paul has been widely advertised as the result of the Health Commissioner's labors.

The Ramsey County Medical Society will probably recommend a candidate for the place, and if their advice is heeded Saint Paul will have a competent man, even if he lacks the aggressiveness of his predecessor.

Why will the politicians usurp the powers of the medical profession when the health and cleanliness of a city is at stake? When will the people be sufficiently educated to understand the unselfishness of medical men in the prevention of disease, and when will medical men be able to summon enough courage to perfect an organization that will mean something—that will carry weight with the public and keep matters of public health out of politics? Probably when some epidemic slaughters the first-born, or when the tail of a comet jars this world's atmosphere.

STATE REGISTRATION OF NURSES

A bill indorsed by Senator Witherstine, of Rochester, provides for the state registration of nurses, and for the licensing of persons as registered nurses. North Carolina, New Jersey, New York, Virginia, Maryland, Indiana, Colorado, and Connecticut have similar laws, and in time other states will follow, and eventually a national organization of nurses will be established.

Most of the bills and laws provide that a resident of the state over twenty-one years of age and of good moral character, holding a diploma from a training-school for nurses connected with a hospital or sanitarium, giving a course of at least two years, may qualify for registration. In the state of Maryland a three-grade course is demanded. The laws are liberal and broad, yet are sufficiently stringent to prevent graduates from "correspondence schools" or persons who have had no practical training whatever, to call themselves *trained* nurses, from passing the required examination for a license. None of the laws prohibit or interfere with any one's practicing nursing, either for hire, for charity, or in her own family, provided she does not call herself a "registered" nurse.

The elevation of the medical profession calls for the elevation of the nurse's profession. There is much poor material in both, and it will take time for the fittest to survive and be recognized as competent. The best in both professions calls for keen perception, skillful observation, and reliability in judgment, an educated mind, and the fruits of experience. The incompetent will

not be successful, and they will seek other occupations by the methods offered by high-grade and recognized training-schools.

For a time there was a good deal of opposition to a registration law in many states by small hospitals that had no training-schools, but now the smaller hospitals are in line and are improving their own schools by a more careful selection of material, a better course of study, clinical opportunities, and the rejection of incompetent probationers. When a law was first projected in Minnesota there was an attempt made to exclude applicants for registration from hospitals having under a certain number of beds, as well as from the training-schools of state hospitals for the insane. A broader view has shown the futility of such discrimination, and the individual and the training are now recognized as the prime requisites. Many applicants will fail in their examinations until the examiners are familiar with their work and the applicants are able to show their worth.

The bill, if of good character, will doubtless be signed by the governor; if it discriminates too closely against certain classes, it may be defeated by a veto.

THE AUTOMOBILE SHOW

The very large and complete display of automobiles and automobile appliances to be made in Minneapolis at the Automobile Show, from March 2 to 9, inclusive, has special interest for physicians, and for apparent reasons: the automobile, either now or when it shall have been perfected and placed, as to price, within the reach of all physicians who ride at all, means much to medical men.

The man who is obliged to make continuous and large drafts upon his physical resources, as is every active physician, practices poor economy when he fails to purchase, at almost any cost, that which will save his health (his stock in trade) and his comfort. The automobile will do this, and even at the present prices and under present conditions, it richly pays the physician to own one; and this Automobile Show furnishes the opportunity to learn many things about the machines and their equipments that one can never learn outside of an exhibit of this kind, where all these things are placed side by side for comparison. We have no interest in this show whatever, except on the lines indicated, but on these lines we feel like urging every doctor who can visit the show to do so, knowing that every man who visits the exhibit will feel himself amply repaid for the outlay of time and money required, though he may come many miles—and not on a pass.

MISCELLANY

IN MEMORIAM*

THE LIFE AND CHARACTER OF DR. CYRUS K.

BARTLETT

BY J. W. MACDONALD, F. R. C. S. E.

Cyrus K. Bartlett was born on January 23, 1829, in Massachusetts. After receiving a good literary and classical education, he entered upon the study of medicine in Harvard University, and received the degree of doctor of medicine on March 4, 1852. His diploma bears the signatures of but eight men, at that time constituting the medical faculty, a contrast to the long list of professorships in colleges of the present day. The signatures to his diploma are Oliver Wendell Holmes, Jacob Bigelow, John Ware, John B. A. Jackson, Henry J. Bigelow, Josiah P. Cooke, G. Walter Channing, and President Jared Sparks.

After a short period of general practice in Charlestown, Mass., he accepted the position of assistant superintendent at Northampton hospital for the insane. On August 10, 1869, Dr. Bartlett was united in marriage to Miss Abbie P. Burnham, of Hartland, Vermont, who survives him.

His appointment to Northampton hospital directed his studies and labors into the line of mental diseases, which specialty he followed persistently until his death. He soon became known as an alienist of national reputation.

In December, 1868, the position of superintendent of St. Peter hospital for the insane having been offered him, he and Mrs. Bartlett removed to Minnesota and entered upon their new field of service, the duties of which were continued with unswerving fidelity and marked success for a quarter of a century. Fitted by close study and an experience of eleven years at Northampton, gifted with the kindest, most cheerful, and most patient of dispositions, he was eminently qualified to take the oversight and care of the unfortunates who, in rapidly increasing numbers, found an asylum at St. Peter.

As the institution was then in its infancy, much careful study and foresight were necessary to shape its future policy and provide for its growth and equipment. The laying-out of the grounds and the planting of trees, of which he was very fond, were special objects of his

care, and are to the present day evidences of his taste and judgment in this direction. His long administration was marked by a conscientious, patient, kind, yet firm, course, which endeared him to all who knew him and made life-long friends of rich and poor who had the privilege of his acquaintance.

In January, 1893, he resigned his position as superintendent of St. Peter hospital, and made his home in Minneapolis, where he confined himself to consultation practice, enjoying in some degree a well-earned respite from the cares and responsibilities, inseparable from the management of a large hospital for the insane.

His long experience and mature judgment led to his being frequently called to the probate court for the examination of the insane, and he enjoyed a good consulting practice.

He was elected in 1893 to the chair of mental diseases in Hamline University. His lectures were clear, concise, and eminently practical. Every word was carefully typewritten, and if published would prove a valuable hand-book on mental diseases for the busy practitioner. In 1906 his failing strength led him to resign his chair, and he was elected a professor emeritus. His fellow laborers on the faculty, and his many students wherever dispersed, will revere his memory.

Dr. Bartlett was a member of the State Medical Association of Minnesota, of the Hennepin County Medical Society, of the Medico-Legal Society of New York, and an honorary member of the Minnesota Academy of Medicine.

In the fraternity of Odd Fellows he was a prominent member, and took an active part in locating and founding the Odd Fellows' Home at Northfield, Minnesota. He was an honored member of the Masonic Order, receiving his degrees in Jerusalem Lodge, in 1859. He affiliated with Minneapolis Lodge No. 19, and up to the time of his last illness took a deep interest in the proposed Home for Aged Masons.

Always robust, leading a most exemplary and temperate life, and of a stock whose longevity was remarkable, Dr. Bartlett retained his health until the latter part of the summer, when his strength began to fail. In September he was obliged to keep to his room, and gradually grew weaker until the 26th of December, when he peacefully entered into rest.

Such have been in brief the labors of our colleague. Words fail me in my effort to do justice to his admirable character.

A lady who had been an intimate friend of the family for many years, said: "I have never

*Read before the Hennepin County Medical Society.

known Dr. Bartlett to say or do anything that I would like to have changed." This was a tribute to his character which I feel sure we can all endorse.

A true friend, a kind and loving husband, an example of morality and good living, cheerful, kind, and gentle in disposition, he will long be remembered as a man who honored and adorned our profession.

Dr. Daniels, who was an intimate friend for many years, so forcibly expresses our feelings that I take the liberty of quoting his words as written from his home in Pomona, California, to Mrs. Bartlett: "Gifted with superior mental abilities, a lovely personality, honorable in all the duties of life, with a modest, generous and graceful spirit, he has ever been my ideal of the highest type of a Christian gentleman."

The past few years have called from us several of our younger members in the flower of their manhood and in the height of their usefulness. The past few months have taken two of our brethren of mature age, Dr. Slagle and Dr. Bartlett, and one by one we shall follow them. Comfort comes to us in knowing that they were spared to the fulness of years, that they looked back over a well-spent life, and died in the hope of a glorious immortality.

REPORTS OF SOCIETIES

OLMSTED COUNTY SOCIETY

The Olmsted County Medical Society held its regular monthly meeting in conjunction with the Surgeons' Club, at Rochester, on February 15.

Dr. H. H. Witherstine proposed the name of Dr. Lena Stacy, and Dr. A. S. Adams proposed that of Dr. H. Z. Giffin for membership to the Society. Both were unanimously elected.

Dr. H. S. Plummer read a paper of "Diagnosis and Treatment of Diseases of the Gall-Bladder and Bile-Ducts." The paper was discussed by Dr. Witherstine, Dr. W. T. Adams, and Dr. C. H. Mayo.

At the annual meeting held in January, the annual dues are fixed at \$1.00.

Dr. W. H. Witherstine and Dr. Justus Matthews were nominated and elected to membership.

The following officers were selected for 1907: Dr. J. E. Crewe, president; Dr. F. R. Mosse, vice-president; and Dr. Justus Matthews, secretary and treasurer.

The subject of fees for insurance examina-

tions was taken up, and Dr. W. J. Mayo addressed the Society, saying that he thought that most of the insurance companies would respond to an united stand by the medical profession; that the doctors would be very foolish to submit to their reduction since they had been especially chosen by the companies who believed that the doctors would not make a united and effective resistance; and that if the examiners submitted to this reduction the companies now paying \$5.00 would also cut to \$3.00, and that there would probably be further reductions. He therefore urged that every member sign the protest and agreement.

Dr. Wiggin, of New York, emphatically seconded these remarks. Others who took part in the discussion were: Drs. C. H. Mayo, Mosse, Fawcett, Steven and Adams.

JUSTUS MATTHEWS, M. D., Secretary

HENNEPIN COUNTY SOCIETY

A mid-monthly meeting of the Hennepin County Medical Society was held on February 18th, the president, Dr. J. E. Moore, in the chair, and 40 members present.

The scientific program being in order, Dr. G. P. Crume read a paper on the "Administration of Mercury in the Treatment of Syphilis."

The paper was discussed by Drs. F. R. Wright and S. E. Sweitzer, and closed by the essayist.

Dr. J. S. Macnie read a paper on "the Ophthalmoscope as an Aid in Diagnosis." The paper was discussed by Drs. C. N. Spratt, C. J. Spratt, E. S. Strout, and C. A. Wright, and the discussion was closed by the essayist.

Dr. Wm. M. Chowning read a paper of "Studies in Rocky Mountain Spotted Fever," and demonstrated the organism by means of slides and drawings.

The librarian announced that the members could have journals delivered to their office by placing a request for the same with the librarian.

C. H. BRADLEY, M. D., Secretary

NEWS ITEMS

Dr. O. H. Hagen has located at Moorhead.

Dr. F. M. Minty has moved from Woodsocket, S. D., to Rapid City, S. D.

Dr. J. F. Whiting, of Spencer Brook, was reported to be seriously ill with pneumonia last month.

The contract for building St. Luke's hospital building at Fargo, N. D., was let last month. The building will cost over \$40,000.

REPORTED FROM 71 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF DECEMBER, 1906

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Croup	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer (?)	Puerperal Septicemia
Albert Lea.....	4,500	5,657	4													1		
Anoka.....	3,769	4,053	3		1												1	
Austin.....	5,474	6,489	3	1														
Barnesville.....	1,326	1,566	1															
Bemidji.....	2,183	3,800	6	1		2												
Blue Earth.....	2,900	2,364	1	1														
Brainerd.....	7,524	8,134	17	1		3				1							1	1
Chaska.....	2,165	2,085	3															
Chatfield.....	1,426	1,300	5															
Cloquet.....	3,074	6,117	5	1														
Crookston.....	5,359	6,794	3	1														
Detroit.....	2,060	2,149	6	1		2												
Duluth.....	52,968	64,942	81	9	1	10	1	4										
E. Grand Forks.....	2,077	2,489	8	2				1						1		5	4	
Ely.....	3,712	4,045	17			8		1										
Eveleth.....	2,752	5,332	6					1										
Faribault.....	7,868	8,279	6	1				1										
Fairmont.....	3,440	2,955	3			1												
Fergus Falls.....	6,072	6,692	3			2												
Granite Falls.....	1,214	1,340	0															
Hastings.....	3,811	3,810	3	1														
Hutchinson.....	2,495	2,489	2															
Jordan.....	1,270	1,311	1			1												
Lake City.....	2,744	2,877	1															
Litchfield.....	2,280	2,415	0															
Little Falls.....	5,774	5,856	8	1		2										1		
Luverne.....	2,223	2,272	3			1												
Le Sueur.....	1,937	1,842	2			1												
Madison.....	1,336	1,604	0															
Mankato.....	10,559	10,996	12		1	2											2	
Marshall.....	2,088	2,243	1															
Melrose.....	1,768	2,151	1															
Minneapolis.....	202,718	261,974	236	21	4	33	5	3	2	1			2		3	7	17	
Montgomery.....	979	1,281	1															
Montevideo.....	2,146	2,595	1														1	
Moorhead.....	3,730	4,794	5			2												
Morris.....	1,934	2,003	0															
New Prague.....	1,228	1,419	0															
New Ulm.....	5,403	5,720	7			1											1	
Northfield.....	3,210	3,438	2	1														
Ortonville.....	1,247	1,612	1															
Owatonna.....	5,561	5,651	6			1			1									
Pipestone.....	2,536	2,885	0															
Red Lake Falls.....	1,885	1,797	0															
Red Wing.....	7,525	8,149	5	1		1												
Redwood Falls.....	1,661	1,806	3															
Rochester.....	6,843	7,233	9			2	1	1									1	
Rushford.....	1,100	1,133	1															
St. Charles.....	1,304	1,238	*															
St. Cloud.....	8,663	9,422	7			1												
St. James.....	2,607	2,320	0															
St. Paul.....	163,632	197,323	169	19	6	20	1	8					1		2	3	6	
St. Peter.....	4,302	4,514	3			1												
Sauk Centre.....	2,220	2,463	0															
Shakopee.....	2,046	2,069	0															
Sleepy Eye.....	2,046	2,312	0															
So. St. Paul.....	2,322	3,453	1			1												
Stillwater.....	12,318	12,435	1	1		2				1				1			1	
Thief River Falls.....	1,819	3,502	2			2												
Tower.....	1,366	1,340	1	1														
Tracy.....	1,911	2,015	1			1												
Virginia.....	2,962	6,056	0															
Wabasha.....	2,528	2,619	4															
Warren.....	1,276	1,640	1															
Waseca.....	3,103	2,838	1															
Waterville.....	1,260	1,383	3	1		1												
West St. Paul.....	1,830	2,100	*															
Willmar.....	3,409	4,040	1	1														
Windom.....	1,944	1,884	3															
Winona.....	19,714	20,334	18	3		2		1	1							1	2	1
Worthington.....	2,386	2,276	0															

*No report received

REPORTED FROM 66 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF DECEMBER, 1906

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Croup	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer (?)	Puerperal Septicemia
Ada.....	1,253	1,515	*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Adrian.....	1,258	1,184	*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Aitkin.....	1,719	1,896	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Akeley.....		1,636	*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alexandria.....	2,681	3,051	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Appleton.....	1,184	1,321	1	.	.	.	.	.	.	.	.	.	.	.	1	.	1	.
Belle Plaine.....	1,121	1,301	2	.	.	1	.	.	.	.	.	.	.	.	1	.	.	.
Benson.....	1,525	1,766	2	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Breckenridge.....	1,282	1,850	5	.	.	.	1	.	.	.	.	.	.	.	1	1	1	.
Buffalo.....	1,040	1,124	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Caledonia.....	1,175	1,405	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Canby.....	1,100	1,505	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cannon Falls.....	1,239	1,460	2	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
Cass Lake.....	546	1,062	*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chisholm.....		4,231	10	2	.	3	.	.	1	.	.	.	1	.	.	.	.	.
Dawson.....	962	1,056	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Delano.....	967	1,023	4	.	.	1	.	.	.	.	.	.	.	.	.	1	1	.
Fosston.....	864	1,000	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Frazee.....	1,000	1,146	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Glencoe.....	1,780	1,805	4	1	.	2	.	.	.	.	.	.	.	.	.	.	.	.
Glenwood.....	1,116	1,718	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Graceville.....	856	1,032	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Grand Rapids.....	1,428	2,055	*	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.
Hallock.....	805	1,014	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hibbing.....	2,481	6,566	17	.	.	6	.	.	.	1	.	.	.	.	3	.	1	.
Jackson.....	1,756	1,776	6	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.
Janesville.....	1,254	1,205	2	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Kasson.....	1,112	1,049	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Kenyon.....	1,202	1,252	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lake Crystal.....	1,215	1,231	3	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
Lanesboro.....	1,102	1,041	*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Long Prairie.....	1,385	1,256	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Madelia.....	1,272	1,290	*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Milaca.....	1,204	1,319	3	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.
Mountain Lake.....	959	1,063	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
North Mankato.....	939	1,129	2	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.
North St. Paul.....	1,110	1,400	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Olivia.....	970	1,019	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Osakis.....	917	1,056	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Park Rapids.....	1,313	1,719	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
Pelican Rapids.....	1,033	1,095	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perham.....	1,182	1,366	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pine City.....	993	1,092	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Plainview.....	1,038	1,140	1	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.
Preston.....	1,278	1,320	3	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Princeton.....	1,319	1,704	*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Renville.....	1,075	1,229	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rush City.....	987	1,041	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rushford.....	1,062	1,040	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
St. Louis Park.....	1,325	1,491	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sandstone.....	1,189	1,589	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Saulk Rapids.....	1,391	1,552	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Scanlon.....		1,122	3	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
South Stillwater.....	1,422	1,572	3	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.
Springfield.....	1,511	1,546	3	.	1	.	.	.	.	.	.	.	.	.	.	.	1	.
Spring Valley.....	1,770	1,573	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Staples.....	1,504	2,163	2	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Two Harbors.....	3,278	4,402	*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Wadena.....	1,520	1,868	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Wells.....	2,017	1,814	2	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.
West Minneapolis.....	2,250	2,530	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Wheaton.....	1,132	1,346	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
White Bear Lake.....	1,288	1,724	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Winnebago City.....	1,816	1,553	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Winthrop.....	813	1,031	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zumbrota.....	1,119	1,129	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
State Institutions.....			39	11	.	4	.	.	.	.	.	.	.	.	1	.	2	.
Other parts of State.....	1,012,328	1,085,886	612	56	6	57	7	10	6	1	4	...	4	1	12	10	31	1
Total for State.....	1,751,395	1,979,658	1489	143	20	194	19	29	10	5	4	...	9	3	35	28	79	3

Still births and premature births, 76 (not included in above totals).

*No report received

THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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No. 6

GASTROGENIC INTESTINAL DISEASES

BY PROF. DR. ADOLPH SCHMIDT

A LECTURE DELIVERED AT THE STADTISCHES KRANKENHAUSES, DRESDEN, GERMANY

REPORTED BY

HENRY L. KNIGHT, M. D.

MINNEAPOLIS

Gentlemen.—It is our purpose to-day to study those diseases of the intestines that have as their origin an imperfect performance of the secretory and motor functions of the stomach.

The belief that a great portion of these maladies, particularly those of a temporary catarrhal and functional nature, are a result of some disturbance of gastric digestion is rendered exceedingly plausible by the intimate association that exists between these organs. The medical profession has been very slow to recognize this fact, principally because of von Noorden's assurance that food may be well digested and absorbed (*ausgenutzt*), regardless of whether the secretion of gastric juice is increased or diminished. He even assures us that its complete suppression need not cause assimilation to suffer.

It is only very recently that our attention has been directed, by Einhorn and others, to the fact that there are diarrheas and constipations of purely gastric origin, the former more often associated with diminished gastric secretion, particularly achylia, and the latter with hyperacid conditions. Severe and long-continued diarrheas from atony of the stomach have been described by Schütz, who has recently investigated this subject thoroughly. The HCl was only slightly reduced, and he ascribes them to the diminished motility. The patients presented the clinical picture of a severe and dangerous disease.

Anyone who will go to the trouble of testing

the digestive functions by our methods will find that gastrogenic disturbances of the intestine, instead of being rare, are extraordinarily frequent. Let me again remind you that the stomach is the only organ that can digest uncooked or half-cooked connective tissue; therefore, if you find, during the administration of the test-diet, that microscopically recognizable fragments of this tissue appear repeatedly in the stools, it is a reliable indication that the stomach was not able to perform the function which was required of it. Personally, I have met this condition so often in my investigation of the feces that I do not hesitate to declare the stomach to be the most common starting-point for the most diverse forms of intestinal troubles. The expression *most diverse* is used intentionally, for, while connective-tissue fragments most frequently, and perhaps constantly, appear in the stools of those suffering from diminished HCl, they appear as well in the diametrically opposite condition, an increased secretion of this acid. They are also to be found in cases of atony and pronounced insufficiency of the stomach, and even in trifling, relapsing disturbances of the gastric digestion, that can only be explained after a long course of observation. Why connective tissue is not digested under the above conditions is not clear. The cases of achylia are easy to understand, but those of hyperacidity suggest another etiological factor, perhaps a diminution of the pepsin secretion, as we know that the acid and the ferment

are not always produced in corresponding quantities. The class with diminished motility are perhaps due to decomposition of the contents of the alimentary tract, but this is a question that needs further elucidation.

With the exception of the undigested connective tissue, which may intersect the stools like a capillary network, the intestinal processes need undergo no important modifications. Very often, however, they show abnormalities in the shape of fluid or semifluid evacuations (diarrheas) or mucus and decomposition products are present in the stools.

The effects of disturbances of the stomach on the intestines are in nowise uniform. They may run from the slightest functional disorder to the most severe catarrh. This depends upon the duration of the ailment, the extent to which the bowel reacts to the irritation, the care which the patient gives himself, etc. When pronounced intestinal disease is present, it may be so prominent as to entirely obscure the stomach malady, and this is particularly apt to be true as to achylia, which so frequently runs its course with little or no indication of its presence, as far as the feelings of the patient are concerned. Here the search for connective tissue in the stools leads us at once to the correct conclusion.

But it has a still more important advantage in that it warns us of impending intestinal trouble, which, perhaps, has been overlooked so far, as it showed symptoms of only temporary irritation of the intestines. Connective-tissue lenteria, associated with stomach indigestion, not only gives an important indication as to the origin of the intestinal disturbance, but affords, also, a useful hint for the treatment. It was formerly believed that this variety of intestinal troubles was due to the absence of the antiseptic effect of the hydrochloric acid. This view was founded on the observations of Kast and Mester, which showed that when the HCl secretion was completely suppressed the ether sulphuric acids (indol groups) in the urine increased, or, at least, had a tendency to increase. However, conclusions drawn from this source are not entirely free from objections, and Mester admits that decomposition in the intestine takes place only when, in addition to the deficiency of hydrochloric acid, an increased number of bacteria of decomposition (Fäulniskeime) are introduced into the system per os.

This explains why a patient with achylia who has committed some slight error in diet—as, for instance, eaten an egg that was not perfectly fresh—acquires a diarrhea so readily; whereas, if considerable doses of HCl are regularly given at meal time his condition materially improves. However, the hydrochloric-acid secretion is not

the only criterion as to decomposition processes in the intestines, as in many cases of achylia (according to Schütz two-thirds) there is no intestinal trouble present. On the other hand, we sometimes find great decomposition in the stomach itself, notwithstanding a high percentage of HCl. The present view in regard to the latter is that disturbances of the motility of the stomach are perhaps of more importance than variations in its chemical functions, but, of course, a combination of the two (as in malignant stenosis of the pylorus) is the most serious of all. Schütz ascribes his cases of diarrhea with gastric atony (with sufficient HCl secretion) to infection of the bowel with certain decomposition bacteria from the stomach, and succeeded in detecting them in the latter organ and in the feces. The causal conditions are, therefore, as follows:

First, with insufficient function of the stomach, fermentation and decomposition bacteria (Gährungs- und Fäulniskeime) establish themselves more easily in that organ, or pass it with greater facility to give rise to secondary disturbances of the bowels.

Secondly, we must consider in this connection the connective tissue. It is susceptible of ocular demonstration that the intestine has much more work to do when the stomach does not functionate properly, and that it is not always in condition to do it. The bowel is utterly unable to digest uncooked or smoked connective tissue, so, if the latter passes the pylorus undissolved by the stomach, it is conducted unchanged into the feces.

As to muscle fibres, fat, and starch, the stomach function is not so important, as here the intestine may compensate for the insufficiency of gastric digestion.

The connective tissue is the most dangerous of all. To prove this, one must take the trouble to accumulate all the connective tissue that a patient with stomach trouble passes in the course of 24 hours. In this way it can be shown, under certain circumstances, that the connective tissue of uncooked meat is entirely cast out, and appears in the stool as a fine network. One must also remember that the insufficiently cooked or smoked meat of an elective diet is rarely so finely cut up as is the minced meat of our test-diet. Raw ham is hardly ever cut sufficiently fine. As a result of this, the patient with a diseased stomach loses not alone the connective tissue, but also the muscle fibres and fat (Muskel- und Fettgewebe) which it encloses. Normally, it is the function of the gastric juice to dissolve the connective tissue and set free the above elements, a function that it is abundantly able to perform, as every test-tube experiment proves. If it fails

in this, the pancreatic juice comes in contact only with the surfaces of the meat particles, as a result of which much less will be dissolved, and muscle and fat will be discharged in the stools more or less unchanged (meat and fat lientery). This applies only to smoked or insufficiently cooked meats, but these are often indulged in by stomach patients. With the assistance of Dr. Brinck I have investigated several cases of acute disturbances of digestion in which, after severe colics, large bed-panfuls of undigested, somewhat changed ham fragments were discharged at one time.

It is therefore clear that the intestine cannot be entirely indifferent to the presence of material which it cannot digest, but which should have been digested in the stomach. Schütz regards the result of this as a more or less rapidly acquired insufficiency of small-intestine digestion. The latter organ, especially including the pancreas and the liver, is not able to meet the extended and complicated demands made upon it, and the consequence may be diarrhea and, at last, intestinal catarrh.

It seems to me that the affair is more simple. It is not necessary to assume what has not been proven, an insufficiency of small-intestine digestion, to account for this condition. Whether the small bowel acts well or ill, it is unable to digest the connective tissue and the nutritive element enclosed by the latter. This, of itself, would not be injurious, were it not that these products afford congenial soil and place for the development of bacteria of decomposition, which are capable, sooner or later, of causing irritation and even inflammation of the intestinal wall. As Schütz has shown, the inherent disinfecting power of the small intestine, which is a very important support to that of the stomach, remains impotent in the presence of these factors. This is shown by the beautiful demonstrations of Strassburger, which prove that the number of the intestinal bacteria increases in proportion to the increase of the culture-media (*Quantum der zur Verfügung stehenden Nahrungsreste*) while, on the contrary, the more the nutriment is digested and absorbed, the fewer bacteria.

This is the explanation of many cases of diarrhea from fermentation and decomposition bacteria which settle in the undigested food fragments. He who eats too much acquires diarrhea, not because he has accidentally swallowed some bacteria, but because he has required of his digestive organs more than they can perform, and hence has given the ubiquitous decomposition microbes a chance to develop in the undigested products and unfold their train of disturbances. The old saying, that "Hunger is the best cook," is again honored by the investigations of Strass-

burger, which show that there is no intestinal antiseptic and no cathartic which really diminishes the number of the intestinal bacteria. This can be done only by a withdrawal of their culture-medium (*Nährboden*).

I now turn to the therapeutical indications which insufficiency of connective-tissue digestion suggests. The first condition is that all uncooked, half-cooked, and smoked meats must be excluded from the diets of those who suffer from diseases of the stomach and intestines. This recommendation, which I have emphasized elsewhere, is an evident conclusion from the foregoing considerations. We have seen that the normal intestine cannot digest uncooked connective tissue. How unreasonable to expect a diseased bowel to accomplish this! We have also seen that the incapacity of the diseased stomach to digest connective tissue (smoked or insufficiently cooked) arises on slight provocation. It is common to many diseases of that organ, and, in fact, constitutes a fine reagent for testing the gastric functions. It is therefore better to exclude uncooked meats altogether than to expose the possessor of an unsound stomach to the danger of secondary intestinal trouble. We could overlook this danger only in case the ingestion of raw or smoked meats afforded so much advantage as to prevail over the disadvantages. Let us consider this question briefly from this view-point.

The impression that uncooked meat is very easily digested is firmly fixed in the public mind, and there are many physicians who believe that they have scientific grounds for supporting this view. The latter argue that raw meat stimulates the secretion of gastric juice, and saturates a very large quantity of HCl.

The first argument is proven by the noted experiments on animals made by Pawlow, and is worthy of consideration only in cases of subacidity or anacidity of the stomach. When, however, we compare the possible advantages for the HCl secretion with the disadvantages caused by the undigested connective tissue, there can be no doubt that the latter greatly outweigh the former. This stimulation of secretion has been proven only in cases of normal stomachs; it is certainly very small when that organ is diseased. Additionally, as Pawlow has shown, as much can be accomplished with meat extractives, bouillon, Liebig's meat extract, etc., as with the raw meat itself.

The second argument is that the ability of uncooked meat to saturate large quantities of HCl may make it of importance in the treatment of hyperacidity. This reasoning is contradictory, to a certain extent, to that which just preceded, because, it might be asked, of what service is

the high-combining power of this form of nutrient if, at the same time, it causes an increased secretion of the offending acid? The first indication in these cases is to limit the increased production of acid, and any therapy which overlooks this and has for its purpose only the saturation of it after it is delivered into the stomach, is symptomatic and secondary. The stomach should be spared as much as possible, and not irritated or exercised. I have long excluded all irritating and secretion-producing foods from my treatment of hyperacidity, and I believe that I do my patients a better service in this manner than by the so-called albumin therapy. If the acid condition must be corrected I prefer to give a little soda or to extract the stomach-contents with the tube, rather than to keep that organ continually disturbed by the ingestion of more food.

We hold, therefore, that all the arguments advanced for the use of uncooked meats are untenable. Possibly such food might be given could it be entirely freed from connective tissue. That is practically impossible, no matter how fine the food is cut or scraped. An attempt to remove the connective tissue mechanically, as thoroughly as the intestine does in a case of achylia, will prove the futility of the endeavor. The worst misunderstanding exists in regard to smoked ham. It cannot be reduced by the teeth, and yet some think it unnecessary to use even a knife for this purpose.

Perhaps some will say that they know a large number of patients who certainly owe their preservation to uncooked meat, assigning various reasons for this conclusion. This is a mistake. The appetite is not the only guide for the selection of food. If it were, champignons, crabs, and nuts would have to be considered easily digestible. No argument against the preceding views can be deducted from the example of the Englishman, who never eats his meat half-cooked, as is so customary among the North Germans, but rose-roasted (*rosa-gebraten*), and that is quite different. In the rose-roasted meat the connective tissue is dissolved; in the half-cooked it is not. Neither is raw meat ordered for a weak stomach in England. That is the custom only in Germany.

So much for the connective-tissue lenterity, to which, I fear, I have already devoted too much attention.

As regards the gastrogenic intestinal disturbances, let me give the following practical advice. In all doubtful and continued cases of diarrhea, make at least one attempt with hydrochloric acid and a bitter. If the trouble is more severe, add lavage to the above. One will be surprised to see how often this treatment will be

successful, an evidence that the stomach is much oftener the point of entrance for intestinal lesions than we are inclined to think. As an illustration of the practical results of the foregoing suggestions let me present the following case-histories:

FERMENTATION DYSPEPSIA CAUSED BY ACHYLIA GASTRICA, CURED WITH HCL, AND DIET FREE FROM CARBOHYDRATES

K. N. Lock-maker, aged 20 years.

History.—Complained of disorder of stomach and intestines that had existed for a long time. The symptoms referred to the former organ consisted of eructation of gas and vomiting while occasional diarrheas pointed more directly to the bowels. Alcoholism admitted.

Present Condition.—At the time of admission to hospital he was a medium-sized, fairly well nourished man. Thorax and nervous system healthy. Urine free from albumin and sugar. Stomach somewhat tender on pressure, but percussion does not indicate that it is enlarged. Stomach-contents, after test-breakfast, small in quantity, large pieces of undigested bread.

Chemical Examination.—5 HCl; lactic acid, minus. Stools following test-diet, light-yellow, semi-fluid, filled with large and small air-bubbles, strong acid reaction. Mortar test: many fragments of connective tissue; large and small masses of mucus. Microscopic: abundance of potato-cells and their contents, the latter staining deep-blue with iodine. Many particles of soap (*Seifeschollen*).

HgCl₂ test: feces took on a marked red; no green elements. Fermentation test: strongly +.

Two to three stools passed daily, accompanied with unpleasant sensations of distension, fullness, etc., in the abdomen.

Patient was given HCl and a diet free from carbohydrates, and marked improvement followed. The stools were reduced to one a day, and their consistency increased. There was no fermentation. After using this diet for a time, the patient was able to resume carbohydrates without discomfort.

Discharged greatly improved.

ACHYLIA AND HYPERMOTILITY WITH DIARRHEA AND ALBUMIN DECOMPOSITION

H. J. Laborer, aged 42. Patient complained of loss of appetite during the last two years; pain in stomach and diarrhea; bloated a great deal; lost 32 lbs. in weight.

Physical condition: medium-sized, emaciated, pale, tongue somewhat coated. Thorax and nervous system normal; urine contained neither albumin nor sugar. Abdomen: epigastrium

somewhat distended and tender on pressure. Liver margin just palpable. Percussion did not show enlargement of the stomach.

Stomach-contents after test-breakfast: small in quantity, and poorly digested. Free HCl. Total acidity 10. Pepsin, minus; lactic-acid, minus; lab, in small quantity.

Feces after test-diet (with milk): thin, light-brown, acid reaction, abundant connective-tissue remains. Microscopic: many fat products. Fermentation test: strong odor of decomposition at the end of twenty-four hours; reaction slightly alkaline.

Feces after test-diet with cacao: of thick consistency (dick brei), and alkaline reaction. Mortar test: connective tissue abundant; mucus masses in small numbers. Microscopically, natural specimens: many triple phosphate crystals; fat products, with iodine test minus; fermentation not present.

Treatment.—Regulation of diet and HCl. Under these he improved both subjectively and objectively. Weight increased 7 lbs. Diarrhea gave place to one or two formed movements a day. Discharged at end of five weeks.

ACHYLIA AND DIARRHEA; CURED WITH TEST-DIET AND HCL

N. W. Servant girl, aged 26 years. Patient had typhoid fever at the age of ten years, and, later, articular rheumatism and chorea. Had

been troubled for a long time, principally mornings (Morgenbeschwerden), with vomiting, and sensations of pressure and fullness, accompanied with diarrhea. Four of five bowel movements occurred daily.

Present Condition.—Medium-sized, badly nourished girl. Nervous system and thoracic organs healthy. Urine free from albumin and sugar. Abdominal walls relaxed; epigastrium tender on pressure. Stomach-contents after test-breakfast about 50 cc. containing badly digested masses. Free HCl —. Total acidity, 6. Lactic acid in small quantity.

The test-diet stools were brown and slightly alkaline. Trituration showed connective tissue in abundance, but little mucus clumps (Schleim-fetzen).

Microscopically.—Quite a number of soap masses (Seifeschollen), but no undigested starch remnants.

Treatment.—Under HCl and continued use of test-diet the diarrhea improved rapidly; the stools became formed, and the connective tissue in them was reduced to a small quantity; subjective symptoms disappeared, and the patient was discharged cured.

These are principally diarrheas which I have had in view in the foregoing lecture. The less frequent constipations resulting from stomach troubles, particularly hyperacidity, will be considered in one of our subsequent sessions.

405 Andrus Building.

TREATMENT IN CEREBROSPINAL FEVER*

By E. E. BIGELOW, M. D.

OWATONNA, MINN.

In presenting for your consideration, this paper, composed of some notes and experiences taken during an epidemic of cerebrospinal meningitis that occurred in southern Michigan in 1871 and 1872, the clinical subject matter having existed some time before the bacteriologist had discovered the fact that the disease is caused by a bacterial infection, known as the *diplococcus intracellularis*; and in making the review of a treatment of cerebrospinal meningitis that had taken place at so remote a period and before scientific research had discovered the apparent cause of the disease, would seem almost preposterous and an unnecessary infringement upon your valuable time.

*Read before the Southern Minnesota Medical Association, August 17, 1906.

While the following manner of treatment was primarily arrived at through an experimental or empirical plan, it at the time proved of value.

Though cognizant of the fact that undreamed of strides into realms beyond the old days of calomel and jalap, ipecac and Dover's, diaphoretics and diuretics, venesection and purgatives of the eighteenth century doctor, have been taken, yet I cannot refrain from presenting to you these reminiscences, even if they prove to be but a mere relic of the past. I trust you will bear patiently with me, for my only desire is that, should any one of you have the misfortune to pass through an epidemic of the disease and the results of the present methods of treatment, which have proved so void of fruitful results in handling the epidemic just passed in New York City,

1211 having succumbed to it in that city in 1904, should prove unsatisfactory to you, you may give your patients the benefit of the treatment I am about to advocate, even though it may seem somewhat crude, it having developed through experiment and pure empiricism.

In passing upon this fact, do not forget that empiricism has often proven to be the keystone to the arch of advancement of medical knowledge. The fact that long periods pass before an epidemic of cerebrospinal meningitis revisits a location, outside of some of the large eastern cities, where it has to a great extent become endemic, the physician will seldom come in contact with the disease in epidemic actively a second time during his life, though he may meet sporadic or isolated cases, not virulent in character, as, when epidemic, being introduced through some local cause or resulting from complications in other diseases, the former mostly in cases of young adults and the latter being grafted upon the patient while suffering from some form of debilitating disease, frequently in the teething period of the infant and in bronchocatarrrhal fevers and pneumonia in children.

While wonderful advancement has been made in both theoretical and applied medicine whereby the physician of to-day scientifically handles disease in a steadily increasing ratio towards complete success, and with great satisfaction to himself, if not at all times to his patient, still there has not as yet been advanced satisfactory remedial agencies for some of those insidious diseases that envelope the patient in so profound a manner as to tend to fatality almost from their inception. Cerebrospinal meningitis may well be placed in this category.

I had the misfortune to come in contact with an epidemic of this disease during the winter of 1871 and 1872 and the seasons following while living in southern Michigan, the epidemic having first made its appearance in New York, its usual starting-point, and having traveled westward, finally making its appearance in Detroit. As the epidemic approached much anxious thought was given to the malady as to its etiology, symptoms, and treatment. Everything in the line of literature in relation to its past history was dug up, and the progress of present clinical observations called from the pen of those whom the country physician was wont to follow.

The great variety of theories presented as to treatment emanating from both old and recent authorities gave but a moiety of consolation, very little encouragement being derived as to successful results from the general treatment advanced.

As an adjunct to the profession I had been, a few years before, launched upon the stage, endowed with ideas of self-sufficiency, usual to the

young M. D. of the day, having to a certain extent absorbed "Wood, Headland and Warring's Therapeutics," and old "Williams' Principles of Medicine," "Wood and Watson on Practice," God bless their good old souls for the good they did, though neither they nor the lecture at the university under whose inspiration I had come forth to conquer, gave this all-absorbing question more than a passing notice.

In passing in review the epidemics of 1806, 1807, and 1812 and on up through the several dates of their occurrence to 1863, I found there existed a great conflict of opinion as to methods of handling it, authorities widely differing in relation to its general treatment, some favoring opium on account of its stimulating and quieting qualities, others opposed to it as being dangerous, fearing narcotism, a depressing effect upon the heart, and a tendency to produce coma. Large drafts of alcoholics were recommended by some high in authority, on account of their well-known supporting and antiseptic nature, but Dr. Stillie, in an able treatise upon cerebrospinal meningitis, issued in 1867, conflicted with the opinions then becoming prevalent as to the desirability of the use of alcoholics, except in cases of extreme feebleness of the heart. It was the general consensus of opinion that the bromides and iodides of potassium could be used in limited amounts. Dr. Patton, in the *Indiana Journal of Medicine* for July, 1870, recommended cantharides, sulphate of soda, and the then-new remedy, chloral hydrate, which had brought out a lively discussion. Some authorities recommended quinia sulphate, and others equally prominent opposed its use. Among other agencies advocated were mustard sinapisms, the fly-blister, wet cupping, dry cupping, and so on down the line of remedial agencies until I, a young hopeful, had become so confused and filled with doubts and fears that when, in January, 1871, I was suddenly summoned into the cerebrospinal meningitis arena, I had decided upon no course to pursue.

My first case was a vigorous young man of 22 years, the attack proving to be typical in all of its phases, the head being drawn sharply to one side, and a scene of great suffering presenting itself. My first greeting on arrival at his bedside was, "Oh, Doctor, please do stop this awful pain. I can't stand it much longer." Here I was up against it, possessing only a mess of conflicting authorities upon the question of remedial relief. The thermometer in the axilla gave a temperature of 102°, the pulse was at 84. I was still viewing the patient's posture and was virtually spellbound as to what course to pursue. A muscular spasm, a fearful groan, and a look of agony from the victim brought me

to my senses, and with a quick decision as to the opium question, I administered one-fourth grain of morphia sulphate hypodermically in the nape of the neck, followed by 20 grains of hydrargyrum subchloridi and one ounce of sulphate of magnesia, this being supplemented by two wet cups at the base of the brain. One-fourth grain of morphia was administered every half hour until one and one-half grains had been given, when the purgative took effect, and the patient appeared somewhat relieved. The head could be straightened up by help of the nurse, but would gradually draw over again. The temperature had dropped to 101° , pulse still 84, spasms had stopped, and no pain was complained of. At this time I administered twenty grains of quinia sulphate, and leaving another dose of the same size to be given at the end of four hours, and some one-half grain powders of morphia to be given one or two hours apart as might be indicated, I directed that a mustard paste be applied upon the nape of the neck, and departed for home, only to be recalled at the end of two hours when I found the patient in a position of opisthotonos, the head thrown violently back, the limbs strongly flexed so that the soles of the feet extended well towards the occiput, and his fearful groans indicating the most profound suffering. One-third grain of morphia was hypodermically given, supplemented by forty-five grains of chloral hydrate administered per rectum, and a consultation asked for. The nurse in the meantime had informed me that the first spasm came soon after the patient complained of the irritation from the mustard, which was still intact on my arrival, but was ordered removed and the neck thoroughly cleansed from what might remain of it. Three hours later a careful examination of the case was given by the consulting physician, the patient being under the influence of the chloral, with no apparent relief in sight from acute opisthotonos. An article had recently appeared in the literature of the day advocating the use of the moxa, the application of which was recommended by counsel, and after consulting the patient's parents was decided upon. A blacksmith soon formed the iron, and brought it to us in a pail of coals at a white heat, in which condition it was applied to several points along the spine, the patient not appearing to notice the effect of the burn. The ice-cap was placed upon the head; no relief came; and death closed the scene eight hours later. One hour before dissolution took place the temperature, which had varied from 101° to 103° , ran up to 106° and the pulse down to 68, having before averaged 80. An autopsy of the brain and meninges revealed a small quantity of thin, opaque mucus interspersed with small purulent-like

flecks flowing along the sinuses and convolutions of the brain, most profuse as we approached the cerebellum and extending into the pons, and a similar fluid injected between the dura and pia mater. We were not allowed to carry our investigations to the cord.

Observations in this case convinced me, not only of the futility of mustard sinapisms, the fly blister and the moxa, but that they were directly antagonistic to relief and that anything of an irritating nature would be not only detrimental, but extremely hazardous.

The following day I was called to a young man aged 25 years and under almost identical conditions that presented themselves in the first victim, with the exception that an acute condition of opisthotonos had taken place before my arrival, the pulse at 90 and temperature 103° . Being at sea in regard to treatment, it all appearing of an experimental nature, I determined to treat the case as ordinary acute inflammations were being handled at that time when existing in other parts of the body, barring developed acute enteritis in so far as purgatives were concerned.

The indications were carried out first by morphia hypodermically in one-fourth grain doses; second, a purgative consisting of 20 grains of hydrargyrum subchloridi and an ounce of sulphate of magnesia; third, full diaphoresis, which was brought about by the administration of fifteen grains of Dover's and steady heat applied to the spine, the latter being accomplished by preparing and filling to their full capacity a pair of woolen drawers with oats (the article of underwear being the only ready article handy), which was placed in an ordinary clothes-boiler with sufficient water and boiled to full heating capacity, and in turn packed along the whole length of the spinal column, just far enough away not to scald the skin. Another pair of drawers having been filled with oats and taken their place in the boiler was alternated with the first as needed so as to keep up the greatest amount of steadily applied heat possible. At the end of three hours the purgative had acted nicely, following which perspiration came on, and twenty grains of quinia were administered, supplemented by forty-five grains of chloral per rectum. The pulse now stood at 82, and the temperature at 101° . At the end of eight hours after the purgative had taken effect the limbs extended and the neck relaxed, and after being straightened remained normal, the patient calling for water, which was freely supplied and abundantly taken. Convalescence and perfect recovery followed under the influence of divided doses of iodide of potassium, after all indications for chloral, morphia, quinia, and heat had

disappeared. I did not repeat the purgative or the diaphoretic, but continued the quinia in moderate doses, and the morphia and chloral as indicated up to time of perfect convalescence, which took place at the end of seven days, full recovery taking place at the end of thirty days.

This mode of treatment was followed, only being varied as age or conditions of patients required, until the epidemic subsided. In all thirty-four cases came under my observation, some mild in type, others virulent, among whom was, first, a young man of 26 years who was attacked while occupied in the woods chopping cordwood and was in an acute opisthotonic position on my arrival. Recovery followed, but on the tenth day after the first attack, against the protestations of myself and his friends, he returned to his work and after a day of exertion fell into the snow in violent spasms, and died eight hours later and before I had arrived at the farm-house. The second, a delicate child of three years, had convulsions, and within nine hours after the first shock was in a condition of opisthotonos, and died. The third was a married woman 24 years of age. Upon my arrival at the house she was being held in a standing position upon her bed, a raving maniac from pain and torture, and before anything could be accomplished for her relief, she fell upon her bed in spasms, opisthotonos followed, and she passed away, a few moments later. Length of attack from first symptoms was twelve hours. The fourth was a young woman of eighteen years, who was found on my arrival to be in acute opisthotonos, convalescence rapidly followed and all appeared to be going well until the twenty-fifth day when she attended an evening party riding several miles, out and back, in a sleigh. On being recalled I found her in spasms; opisthotonos followed. On account of her weakened condition from previous attack the treatment was not so heroically pushed. Apparent recovery followed though the patient was left in a feeble and nervous condition. Under chalybiates and hot weather improvement came, only to be followed by a second relapse four months later, the disease now taking on a subacute form, convalescence being retarded. This brought the case into December, 1873, and the disease assumed a chronic character, the patient now being the greater share of the time confined to her bed.*

Among men of eminence with us at that time was Donald McLean and the late A. B. Palmer, of the University of Michigan, who rendered from time to time valuable counsel in this case. Among the many agencies

recommended was the application of a tartarized antimony plaster along the spine, resulting in a long discharging issue that opened deeply into the tissues, causing extreme pain which was controlled only by morphia, the issue being kept open for several weeks when improvement came, and the issue was dressed antiseptically and allowed to heal. Under the influence of tonics and out-of-door air, the summer again having arrived, the patient made what would appear to be a rapid recovery, still a series of relapses again followed, the patient being up and down until December, 1877. Some months after I had moved from the state to Owatonna, Minn., I learned that at this time spasms again made their appearance, followed by slight opisthotonos and death. The time after the first attack was five years and nine months.

I have had the misfortune to meet one case of cerebrospinal meningitis since. Mr. T., a married man of 38 years, a commercial traveler with a companion were snow-bound in the winter of 1880, and had to ride some twenty-five miles over the drifts by sleigh. When they arrived in Waseca they were very cold. They separated, each going to his respective town by rail. Twenty-four hours after Mr. T. had arrived home I was summoned to his bedside, where I found him suffering with a severe pain in his head, a temperature of 103.5°, pulse 94. I ordered a towel wrung out of ice-water applied to his head, and administered a purgative of 20 grains of hydrargyrum subchloridi and one ounce of sulphate of magnesia, and left two ten-grain doses each of quinia and Dover's, one of each to be given jointly as soon as the cathartic had acted, and the remaining two to be given at the end of four hours, believing that this would be all that would be needed, and took my departure. I was again summoned six hours later, and learned that the purgative had acted, and every thing had been carried out as directed, but my patient was in fearful pain, his head being drawn sharply to one side. Recognizing my old enemy of 1871, I put the old treatment into effect with the exception of the addition of one teaspoonful of fluid extract of jaborandi to the Dover's. The patient was convalescent at the end of seven days, and made perfect recovery at the end of three weeks. Some time after this Mr. T. informed me that his old friend and companion had been attacked with cerebrospinal meningitis on the same night he had his attack, and had died the eighth day following.

SUMMARY

In the fatal cases named the temperature of the body usually went up to 104°, and in one case to 106° just before dissolution took place. The

*When visiting in Michigan last fall, several months after this paper was read, the writer learned that this woman was still living, and he called upon her. She stated that she had not suffered the last reported relapse, but had gradually regained perfect health. This reduces the mortality in the report down to four.

kidneys were usually very active on the first inception of the disease, becoming more or less torpid during advancement. The pulse varying from 65, the lowest, to 96, the highest. Out of the thirty-four cases treated five succumbed as herein related. I have reason to believe that the constant and steadily applied heat, almost to the scalding-point, had much to do in producing the cures, but whether it had anything to do with the destruction of the diplococcus or not I am unable to judge. The purgatives seemed to give relief of the pains in the head, and no doubt proved antiseptic to the alimentary canal. Other physicians adopted this course of treatment after a failure in handling their first cases, and with equally as good results as those following my efforts.

In relation to the treatment now in use, with all due deference to the advanced theories, I am unfavorable to the application of the Paquelin cautery, unless it might prove useful should the disease assume a chronic character, as in the case of my fifth patient, though I believe the tartarized antimony plaster of more durable utility.

Anything that may be applied locally of an irritating nature is injurious. Ice produces shock as was demonstrated in many cases when tried during the epidemic of 1871 and 1872, and it would be absurd to take a patient outside of a

hospital, and immerse him in a tank of ice-water, and even in the hospital it would prove untenable and contra-indicated, while steady heat is soothing and gives immediate comfort to the patient. Wet cupping was not used except in the first case. The iodide of potassium in conjunction with the syrup of iodide of iron was used in the treatment of all of the cases after perfect convalescence had been established up to full recovery, which gave marked satisfaction.

1. Quinia sulphate was administered in twenty-grain doses every four hours till eighty grains had been given. The morphia was suspended for a reasonable time after the administration of the Dover's. At the time of the epidemic under consideration jaborandi was not in use, but was exhibited once during the case treated in 1880 with, I thought, good results.

Questions: Did the large dosage of quinia sulphate have any effect in relation to final results?

2. Would jaborandi or its alkaloids through their all-pervading influence through the whole system of the person, be of any utility in aborting the disease? I have been of the opinion that it had an aborting effect in the congestive stages of pneumonia.

3. The disease often appearing during the season usual to attacks of pneumonia, what relation might the diplococcus intracellularis have to diplococcus pneumoniae?

PARACENTESIS SPINALS, WITH REPORT OF A CASE OF CEREBROSPINAL MENINGITIS*

By W. H. WITHERSTONE, M. D.

ROCHESTER, MINN.

In presenting this subject of spinal puncture I shall not endeavor to review the literature or compile the statistics of results, but shall endeavor to point out the important facts observed in sixty-three spinal punctures on forty-four individual cases, with a report of a unique case of cerebrospinal meningitis, these cases occurring during my service on the resident staff of Cook County Hospital, Chicago.

The 44 cases punctured comprise the following—

- 3 cases of cerebrospinal meningitis.
- 2 cases of tubercular meningitis.

2 cases of typhoid fever, with meningeal symptoms.

5 cases of typhoid fever with no meningeal symptoms.

14 cases of pneumonia, with meningeal symptoms.

11 cases of uremia.

1 case of streptococcus meningitis.

1 case of cerebral hemorrhage.

1 case of fracture of the base of the skull.

1 case of fracture of the pelvis, with paralysis of bladder and rectum and lower limbs.

1 case for spinal anesthesia.

The first case of tubercular meningitis was a child four years of age in the advanced stage of the disease. Two separate punctures were made one week apart. The fluid obtained at both

*Read before the Southern Minnesota Medical Association, August 17, 1906.

punctures was only slightly opalescent and under considerable increase of pressure. The pressure was determined roughly by the number of drops which would exude from the needle per minute, always using a needle with a lumen of the same diameter. Normally from 20 to 40 drops exude per minute. The tubercle bacillus was demonstrated in the delicate fibrinous clots.

The second case of tubercular meningitis was a child 13 years of age, in whom the disease was of two years' standing. Marked hydrocephalus, contractures of limbs, and total blindness existed in this case. Three separate spinal punctures were made. The fluid was found under high tension running a forcible stream from the needle. The fluid was clear, and no tubercle bacilli were found. Very few polymorphonuclear leucocytes, but an abundance of lymphocytes and an occasional red cell, were found.

In one of the two cases of typhoid fever showing meningeal symptoms the bacillus typhosis was isolated in pure culture from the spinal fluid. In the other case showing meningeal symptoms the bacillus typhosis was isolated in pure culture from the spinal fluid. In the other case showing meningeal symptoms the fluid was apparently sterile, as was also the case in the other five cases which showed no special meningeal symptoms.

Of the 14 cases of pneumonia with meningeal symptoms four showed a turbidity of the spinal fluid with the presence of the pneumococcus. In one case in which there was no apparent change in the spinal fluid the pneumococcus was isolated.

In eleven cases with uremic coma or convulsions spinal puncture was made. The fluid was always found under an increase of pressure varying from several drops increase to that of a forcible stream through the needle.

Only one case of streptococcus meningitis came under my observation. The patient had septicemia following a slight infection of the hand. The streptococcus was isolated from the blood. During the last forty-eight hours of life he developed all signs of meningitis. The spinal puncture revealed a purulent exudate scarcely able to exude through the lumen of the needle. Only a few drops were obtained, these showing a pure streptococcus culture.

Three cases of cerebral hemorrhage were punctured during the semicomatose condition following the apoplectic seizure. One of the punctures showed a few red cells, the other two showed nothing abnormal. In one of the cases giving a negative result the diagnosis was corroborated a few days later by a post-mortem.

One case of fracture of the base of the skull

was punctured. A slight increase of tension was found; otherwise nothing abnormal.

A patient having a fracture through both rami of the pubes was subjected to the same procedure because of paralysis of both lower limbs and also of the bladder and rectum. A slightly bloody fluid was obtained. The patient went to the coroner, and was thus lost as far as ascertaining the nature of the spinal injury.

Only one case was tapped for the purpose of anesthesia. This was a woman seventy-five years of age with a secondary carcinoma of the femur. The hip-joint was disarticulated after the injection of twenty minims of Schleich's solution, a few inhalations of ether being necessary to complete the operation, which was entirely successful. To my knowledge only two other cases were tapped for the purpose of anesthetic effects during the year 1905 at the hospital. In one case morphine and eucaine were injected for tetanus, the other case being the injection of magnesium sulphate for the same disease. Not being under my personal observation I do not know the exact results of this treatment, but both cases terminated fatally. The magnesium-sulphate injection for spinal anesthesia is at the present time occupying the attention of many investigators.

Three cases of cerebrospinal meningitis were under my personal observation: two cases recovering; the third died. In considering the diagnosis of this disease from spinal puncture I will report one of the cases that recovered.

John E., entered the hospital March 22, 1906. Occupation, laborer; age, 41; nativity, Bulgarian; married.

History.—As the patient was unable to speak a word of English, and was in poor mental condition, a history could not be obtained except that he had been sick one week.

Examination.—The examination as recorded when he entered the hospital is as follows: Man of middle age; slightly emaciated; in a state of listless stupor; face flushed; eyes expressionless, conjunctiva congested, left pupil slightly larger than the right, a moderate strabismus; lips dry and fissured, profuse crop of herpes about the lips, nose and forehead. The head was buried deep in the pillow, neck rigid, and any attempt to move the head caused severe pain. The lungs were negative except for a slight impairment of resonance in the right axilla. The heart was within normal bounds, tones clear, no murmurs, pulse full. The abdomen was retracted, giving a saddie appearance; liver and spleen just palpable. The bladder extended to within three fingers of the umbilicus. Extremities: no edema, Koernig's phenomenon very marked. Skin:

intense vasomotor disturbance is shown by extensive hyperemia on the least irritation of the skin. No hemorrhagic spots are evident as is quite commonly the case. Glands: no enlargements. Temperature, 101.6°; pulse, 66; respirations, 20. Leucocytes 10,100. Widal negative.

Spinal puncture shows a slightly turbid fluid under slight increase of pressure. Three drams were removed. Microscopically the fluid showed the polymorphonuclear leucocytes, 45 per cent; the mononuclears, 55 per cent; a few diplococci present, both within and without the leucocytes. This is rather contrary to the rule, as in most cases the diplococci are found within the white cell.

On the following day the bouillon cultures showed a non-Gram-staining diplococcus, this being conclusive evidence as to the nature of the germ. The only organisms which would be confounded with the diplococcus intracellularis meningitidis would be the pneumococcus and the gonococcus. The former germ, however, stains by Gram's method, and the latter germ while a non-Gram-staining organism will not grow in ordinary media.

A bouillon culture made from the blood was negative. Blood examination shows: reds 4,100,000; whites 9,900; hemoglobin 90 per cent. Differential count showed neutrophils 75 per cent; eosinophiles 0.5 per cent; lymphocytes 7½ per cent of the large, .17 per cent of the small.

During this time the temperature varied from 99° to 102.8°. The pulse varied from 95 to 105 per minute; the respiration was 28.

The patient was unable to pass his urine and was catheterized every six hours. The bowel movements were involuntary.

Urinalysis showed the urine to be highly colored, acid reaction, specific gravity 1020, albumin a trace, no sugar, few hyaline and granular casts, and a few leucocytes.

Examination of the eye-grounds showed a slight dilatation of the veins of the fundus; disc otherwise normal.

On the fourth day another spinal puncture was made. The exudate was decidedly purulent and contained many flakes of fibrin, and was under slight increase of pressure. At this time the agglutination test was applied, this test being similar to the Widal test in typhoid. The following results were obtained:

1. Serum from the blood of the patient agglutinated the meningococcus from other cultures.
2. Serum from the blood of other specific meningitis cases agglutinated the organism from the spinal fluid of this patient.

3. The serum from this patient's blood agglutinated the organism isolated from his spinal fluid.

4. The organism isolated from his spinal fluid was not agglutinated by the serum from other cases, i. e., not cerebrospinal meningitis patients.

This agglutination test in cerebrospinal meningitis has been applied in many cases by Dr. D. J. Davis, of the Rush Medical College, and has proven satisfactory in a large percentage of cases.

Cultures from the nasal mucous membrane showed the same organism, and it is now generally accepted that the infection occurs through the nares and thence through the cribriform plate of the ethmoid. Cultures made from the vesicles about the nose and mouth were negative.

During the next ten days the patient grew extremely weak. He was emaciated to a mere skeleton, and took but little nourishment. The clinical findings, including pulse, temperature, and respiration, remained as before.

The third spinal puncture was now made and fifty cm. were removed, the fluid being turbid as before. Immediately after the puncture the patient had a severe chill lasting five minutes, but subsided without other effect. The patient continued about the same for ten days longer, the pulse growing weaker, but the mental condition improved.

Another blood-examination showed: reds 5,200,000, whites 12,000, hemoglobin 90 per cent.

For three weeks he remained in about the same condition under heavy stimulation and external heat with a continuous normal-salt enema.

At this time, being in the seventh week, he regained power of his bladder and rectum. A week later his temperature was normal, and the rigidity rapidly decreased. He got up on the ninth week, and asked for his discharge at the tenth week.

The treatment consisted, besides catharsis and enemas as necessary, of ammonium iodide in 15 gr. doses, t. i. d., this being about the only medication recommended at the present time. Strychnine and whiskey were given for six weeks when every day seemed apparently his last. The continuous normal-salt enemas in this case as in innumerable others did more, in my opinion, than all the combined stimulation. Morphine was used freely for pain and restlessness. Ice-caps and ice to the spine were continued throughout the entire course of the disease.

From the above cases it is evident that the indications for spinal puncture are—

1. As a diagnostic measure.
2. As a therapeutic measure.

3. For spinal anesthesia.

For diagnosis the nature of the organism can be absolutely ascertained, and if the meningococcus is found the case may be isolated, although at present, and judging from the reports of the last epidemic, it seems as if cerebrospinal meningitis is no more contagious or dangerous in a ward than pneumonia or typhoid fever. An idea as to the extent of intracranial pressure can be ascertained by the tension of the fluid in the spinal canal.

As to spinal injuries: the presence or absence of blood in the spinal fluid lends an aid to the diagnosis of the extent of the spinal injury. In cerebral hemorrhage it was demonstrated that blood may or may not be present. As to its therapeutic value, very little is definitely known. It is true that when the spinal fluid was found under high tension some relief was experienced after its withdrawal, but these periods of relief were of extremely brief duration. The mental condition was apparently improved when the purulent exudate of the specific meningitis cases was withdrawn, but the result could not have been noted by one not intent on having such a change produced.

As for spinal anesthesia: the injection of cocaine into the spinal canal is being used less and less according to the statistics of Cook County Hospital. The injection of morphine and magnesium sulphate for controlling convulsions and in tetanus has already been mentioned.

As to the contra-indications: I know of none if the patient's consent is obtained. One case of pneumonia in extremis was tapped, and he died a few seconds later, but his death can scarcely

be attributed to the spinal puncture. One patient grew extremely faint and dizzy after removing only a small quantity of spinal fluid. This lasted only a few seconds. Two patients developed chills immediately after puncture, but without other untoward effects. This constitutes all the ill effects observed in this list of cases.

Technic.—Spinal puncture is an extremely simple procedure. An ordinary aspirating needle, preferably with an eyelet a few mm. from the end, is the only instrument required. It is only rarely that an aspirating syringe will be necessary for the withdrawal of the fluid, then an ordinary aspirating syringe may be attached. With the patient lying on one side, preferably the right, the thighs flexed upon the abdomen, and the spine flexed so as to increase the distance between the spines of the vertebrae, the back is rendered aseptic, and the point determined for the entrance of the needle. This point is between the third and fourth lumbar vertebrae, which is at the level of the iliac crests and one-half inch to the right of the median line. This small area may be anesthetized with 95 per cent carbolic acid, although this causes about as much distress as the puncture itself, which is a comparatively painless procedure. The needle is thrust in at this point with a direction slightly upward and inward, depending upon the thickness of the tissues intervening. As a rule the first indication of entrance into the canal will be the escape of cerebrospinal fluid. The needle may have to be withdrawn slightly and inserted at various angles before the canal is entered. The fluid is allowed to run into a sterile receptacle, the rapidity of the flow being at the same time noted. The needle is withdrawn, and the wound sealed.

A FEW DRUGLESS REMEDIES IN THE TREATMENT OF DISEASE*

By O. F. WAY M. D.

CLAREMONT, MINN.

During the entire history of medicine the chief method in the treatment of disease has been by the use of drugs, of some kind or other. Mineral, vegetable, and animal preparations have been used in all varieties, compounds, and shapes. So strong has been the confidence in such substances as curative agents that many have believed that there is a drug remedy, sure-cure, for every dis-

ease, if the drug can only be found. In olden times the more filthy and nauseous the preparation was, the most good it was supposed to do, and now even to read of some of the decoctions given patients is enough to sicken the stomach of most any of us. As late as the time I began the study of medicine my preceptor told me that my patients would estimate the amount of good I was doing them by the amount of nasty medicine I turned down them. During later years,

*Read before the Southern Minnesota Medical Association, August 17, 1906.

however, these customs are considerably changed. so that now there are many manufacturers whose greatest ambition is to prepare elegant preparations, as sweet to the taste and handsome to the eye as possible, even many times I fear to the sacrificing their efficacy as therapeutic agents.

There are thousands of drugs and compounds recommended for use in treating disease, and each medical student is supposed to familiarize himself with them all and know for what each one has been used and recommended. Pharmaceutical manufacturers are daily adding to the list, but fortunately, they label each preparation, plainly stating what it is good for and exactly how it should be used, making it as easy to prescribe these remedies as it is for a druggist to recommend some world-renowned patent medicine. Really, when it is made so easy to prescribe these sure-cure, elegant preparations, it seems a shame that the medical student should have dyspepsia, constipation, kidney and liver diseases, neurasthenia, rheumatism, etc., by the thousand. Ask the majority of patients how much water they take in a day, including that taken in tea, coffee, etc., and they will tell you from three to four glasses, whereas every healthy person should take at least two quarts of fluid of some kind every twenty-four hours.

Volumes have been written on dietetics, the proper food to eat, method of preparing the same, the exact quantities to take, the drugs calculated to assist in digestion, and, in fact, all about it, but how very little do we see about the taking of water. Though a large percentage of the body is water little attention is given to the supplying of this article in our directions to patients. See the small child, how often in the day he calls for water. At the table he drinks much more than he eats. In fact it is drink, drink, drink, from morning to night and often two or more times during the night. This should impress upon us that the body needs much water, but by habit we continually put it off until at last nature becomes discouraged and ceases to beg for water, and soon we are dyspeptics, constipated, nervous, rheumatic, all on account of the autotoxemia caused by retained poison which should have been washed out of our system with a goodly supply of water.

It is said that \$85,000,000 are spent in the U. S. every year for patent medicines, most of which are taken by people troubled with constipation. This, with all the medicine prescribed by physicians for the same trouble, is indeed a vast amount, and nearly all constipation is caused by a lack of water. If we see our gardens and lawns withering and dying we at once give them water, and they are soon as fresh as ever. If we see our patients withering with dyspepsia,

constipation, and other effects of retained toxemia we fill them with cathartics, alteratives, emulsives, etc., forgetting that they too need water, water, water; not, as I have seen it given, in large quantities two or three times a day, but in small quantities often repeated day after day.

The next essential to health is air. Here, too, we have a remedy neglected nearly or quite as much as water and with about as bad results. See to it that patients get plenty of air, not simply by instructing them to sleep with open windows or in a tent, for they may do this and still breathe so shallow that they will not get air enough to add one day to their lives. Instruct them how to breathe deeply, not simply inflating the lungs, but breathe down deep with the abdomen, and it matters little whether they stay in the house or out, whether in Colorado or the pines of Minnesota, they will soon show improvement unless so far gone there is nothing to build on.

be required to spend so much time in the hard study of the 15,000 and over medical substances contained in the U. S. Dispensatory, especially when we realize that in actual medical practice most physicians will confine nearly all their prescribing to from fifteen to twenty preparations. While all physicians do not select the same fifteen or more substances there is little difference in the results sought or obtained.

Notwithstanding this immense list to select from, most people are beginning to realize that even this is not sufficient to give many patients the best chance for recovery, and consequently many other means of cure have lately been employed, either alone or in addition to the use of drugs. It is to the use of some of these remedies that I now wish to call your attention.

Surgery is without doubt the greatest rival of medicine there is, and it begins to look as if within the next few years the surgeon will drive the medical men entirely out of business. Many diseases for years considered as strictly medical are now claimed by the surgeon and treated by him without the aid of drugs. Specialists, no matter what their line, give, as a rule, but little medicine, and the general practitioner is the only one left who depends almost entirely on drugs to cure his patient, and I believe if we would hold our patients and keep them from going away to different specialists we also must supply ourselves with other means of cure and not depend so entirely upon medicine. In this article, therefore, I wish to speak of a few of the remedies I myself have found success in using during the past few years.

First among these are the three life-essentials without which no living thing, whether man, beast, or plant, can be healthy. They are food, water, and air.

Of these life-essentials there are but few persons who do not take food enough, though many do not take the proper kinds and more take altogether too much. See to it, therefore, that patients get proper food in proper amount and get it properly.

No person can be healthy by living on "grape nuts," or on liquid peptonoids, or any other single preparation; nor can one be healthy and have only three or four teeth in the mouth with which to grind the food. Bread, butter, beef, potatoes, eggs, and milk contain all the elements necessary in food to keep the system in healthy condition. Every person should be able to take these in proper amounts, and digest them without artificial digestives.

The next life essential is water; and right here is the cause of much suffering and sickness. Few people, comparatively speaking, take water enough, and consequently we have patients who

Now, if everyone would live as outlined above, there would be little need for a physician, but as few do so live there is plenty of work for us to do in restoring them to health and comfort.

As stated above, there is a growing tendency to have this done without taking as much medicine as has heretofore been given, and it is to a few of these other means I now call your attention, and I think by reporting a few cases as treated I can best show the benefits of these methods.

J. B., farmer, about thirty years of age, troubled for several years with cough, also much indigestion and pain in stomach; mother died of tuberculosis. Six weeks ago he was taken very severely; pain in the stomach, vomiting, temperature 102°, pulse 120 to 130, and this condition exists at the present time. He is unable to take food of any kind without great pain and vomiting; very much emaciated; has been treated by two physicians, but continued to grow worse. Went to hospital hoping for surgical help; the physicians reported the case cancerous or tubercular, not positive which, but too far advanced to operate. Began daily x-ray treatments of tube five inches directly over the stomach. After second treatment the patient noticed pain not quite so severe, and after the third treatment the pain entirely left; the temperature and pulse gradually became normal; he could eat heartily, gained flesh, and was soon better than he had been for years, and has so continued now nearly three years. He took about twenty treatments.

Miss H., aged twenty, troubled with pain in stomach and left side; temperature 101°; pulse 100; unable to take food without severe pain; no menstruation for three months. Diagnosed at hospital as tuberculosis or ulcer of the stomach.

This case did not respond so rapidly as the first, but a gradual improvement began and cure resulted. Menstruation occurred after one week of treatment.

In either of the above cases I do not know what the trouble was, and refer to the hospital diagnosis simply to show that there was evidently something seriously wrong.

J. L., stock-buyer, 35 years of age, confined to bed with inflammatory rheumatism for ten weeks; very much emaciated, nervous, unable to take food or sleep; no joint in body free; temperature 103°, pulse 140.

Treatment: body hot air at temperature of 250° to 300° daily, followed by static breeze and spray. After the third treatment he was walking all around town, sleeping and eating well, temperature and pulse reduced, and after two weeks he returned home cured.

Tillie R., aged 18, has had chorea six months, during which time she has tried many remedies, but absolutely without benefit; in fact, it seemed medicine made her worse.

After three treatments of static breeze and spray the twitching became less, in one week it was entirely controlled, and the patient returned home in ten days, cured.

Mrs. L., aged 55, unable to take food the past ten weeks without vomiting almost as soon as food was swallowed; had lost about 80 lbs. Trouble had been diagnosed dyspepsia, cancer, ulcer, etc.

After the second treatment by static breeze and spray, vomiting ceased, and she rapidly regained her usual health, and was able to eat heartily.

W. S., aged 27, troubled the past two years with pain in region of heart, believing he had some serious heart trouble. Medicine has given but very little result. Two treatments of static spray entirely cured him.

Miss E. B., aged 27, sick for several years; had one operation for appendicitis, and two operations for fixation of floating kidney. Medicine by the gallon. A complete nervous wreck, can sit up but short time, no appetite, severe headache nearly all the time, anemic, much pain in the region of the operated kidney, and believes she must have another operation as the kidney is again floating.

Treatment: properly fitting glasses, static electricity, and massage. Began to improve almost immediately, and in two weeks time went home, and was soon as healthy as the average young woman.

O. W., 45 years of age, troubled with headache, indigestion, and constipation from child-

hood. Has to be very careful of food, or he gets a bad spell with stomach, takes very little water or fluids of any kind, water making the stomach feel bad. Has taken digestives, laxatives and cathartics with very little benefit.

Treatment: at least eight glasses of water every day, taken in very small quantities but often; one glassful being taken every morning before breakfast. In a short time bowels were working perfectly regularly; digestion good, and headache hardly known.

D. L., aged 30, pain and soreness in right iliac region, especially sensitive at McBurney's point, has been troubled quite a while but the past ten days much worse, badly constipated, unable to eat without pain; in fact a case apparently nearly ripe for the surgeon.

High-frequency vibration almost immediately relieved the symptoms, and a few treatments afforded complete relief.

Mrs. S. E., aged 28, abortion at three months eight weeks ago, since which time she has continued to flow, sometimes very profusely. Has taken medicine, hot douches, been curetted, and tamponed without avail. Is pale, anemic, and very nervous, very much afraid she will bleed to death.

Upon examination she was told the uterus was misplaced, tipping backward, and was informed positively that by replacing this organ the flow would cease. After a few minutes spent in the vain endeavor to replace the perfectly normal uterus the patient was informed it was now all right and the flow would stop, which it did in a very obedient manner and short time.

E. R., aged 20, inflammatory rheumatism the past four weeks, three days ago the attending physician told her friends he could do no more as the rheumatism had struck her heart and she could live but a short time. Patient very weak and restless, pulse very rapid and almost imperceptible, respiration about 50, could take no nourishment without vomiting, severe pain in nearly every part of body, no sleep for seventy-two hours, could be turned only by using the greatest care and help of two or three assistants, unable to stand the least noise, nor could she speak herself above a whisper much of the time, temperature normal.

After a few questions directed to assistants, feeling of pulse, listening to heart and lungs, taking temperature, etc., I remarked: "She will get well." At the end of thirty minutes during which time I several times repeated positively that she would get well, giving reasons for thinking so, the patient could turn herself, talk, and laugh. She sat up, and was well on the road to

recovery, which progressed without interruption.

Mrs. R., aged 30, has been flowing for the past six weeks after missing her regular term a very few days. Drugs for the past four weeks have not succeeded in checking the flow.

Galvanism for ten minutes stopped the flow, and in a little less than seven months she was delivered of a big, fat boy.

Mrs. B., aged 28, pain in right iliac region; in the past two years drugs have had but little effect, and the patient is positive she has appendicitis.

Under hypnotic sleep she was positively informed there was no appendicitis, that the pain was gone and would remain gone, that she would be in good health, and although previous to this she had been almost constantly taking medicine of some kind for eight years she obeyed the suggestion, and has since been a well woman, now nearly two years.

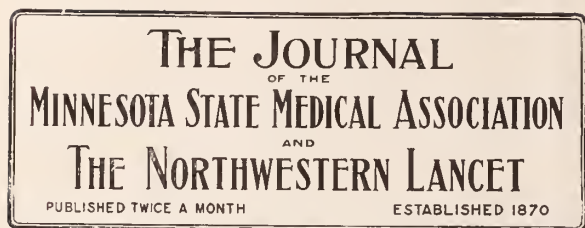
Mrs. B., aged 35, troubled very severely with headache for the past fifteen years, often so severe she is obliged to stay in bed. Had more or less drug treatment during all these years, which has had but little effect, and she constantly is growing worse. Concave glasses, only one-half diopter in strength, completely cured her and for the last three years she has scarcely had a knowledge of headache.

Mrs. E. M., aged 47. Ten years ago this patient was operated on for entire removal of uterus and appendages, since which time she has been a constant sufferer from pain in the head, back, and lower abdomen, especially tender in right iliac region. She is a nervous wreck, and thinks she has appendicitis or cancer in right iliac region. Drugs have had little effect on her. After first treatment with high-frequency vibration, the patient reports worse than ever; after the second treatment she says pain is less and she rests better than she had since operation. Improvement continued after each treatment. She is still under treatment, but from present indications I believe she will soon be in good health.

In reporting the above results I have taken only cases that had been treated by drugs for quite a while without a cure, in order to prove positively the effect the mentioned remedy had.

In all cases I have seen that the patient took the life essentials properly as given above.

Some of the patients were given small quantities of drugs while taking the other treatment, but as they had already taken drugs for a long period with little benefit I believe the treatment mentioned is that which produced the results.



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QUININE IN PNEUMONIA

The employment of quinine as a remedial agent is of doubtful value, according to the opinions of the present-day practitioner. It is refreshing to hear, occasionally, that there is really a virtue in this old-time drug, outside of the specific effect in malaria.

Quinine, in combination with iron, arsenic, and strychnia, in pill or elixir form, is still prescribed for its supposed tonic and appetite-producing qualities. Undoubtedly, many physicians use it as a placebo, in small doses, in order that the patient may be satisfied that some drug is being used to promote his recovery.

Dr. M. A. B. Smith, in the Journal of the A. M. A., for January 12th, calls attention to the use of quinine in the treatment of lobar pneumonia. He quotes from a lecture by the late Prof. Alfred L. Loomis, who said that he believed that the sulphate of quinine is a true antiseptic; that it is an arterial sedative, and that it shortens the febrile stage, and hastens the stage of resolution in pneumonia. He further quotes from a letter from Dr. Galbraith in which he endorses the opinion expressed by Dr. Loomis, but Dr. Galbraith gives much larger doses than Dr. Loomis, as he believes that quinine acts as

an antitoxin in pneumonia, destroying the micro-organisms and their products which produce sepsis. Dr. Smith thinks it wise to give heroic doses, and his initial dose is from 30 to 50 grains, and after three hours, a second dose of 30 grains is ordered. In some of his reported cases the course of the disease was not materially shortened, but the febrile stage was reduced. Dr. Loomis gave quinine in doses varying from twelve to thirty grains each day. Dr. Galbraith and Dr. Smith give about seventy-two grains in twenty-four hours, and claim less deafness than from the smaller doses usually employed. Both of the gentlemen give also a fairly good dose of calomel and soda, and daily doses of tincture of iron.

Dr. Smith's paper is open to criticism from many points of view. The administration of calomel followed by quinine, is suggestive of a malarial possibility, in spite of the fact that all of the physical signs of pneumonia are undoubtedly present, also the fact that pneumonia is usually regarded as a self-limited disease, and recovery takes place under varying forms of treatment or no medicinal treatment.

It is interesting to note that external applications were used in some of Dr. Smith's cases, such as mustard drafts or poultices and other old-time methods.

Perhaps there is more in the quinine method than we appreciate. If it can subdue the malarial plasmodium, and make the pneumococcus less virulent why will it not be of value in la grippe?

The mortality in pneumonia is comparatively high, 18.1 per cent. Anything that will reduce this mortality will be welcome.

Quinine is practically harmless, and the mortality in about three hundred cases reported by Dr. Galbraith was about 2 per cent, showing that the remedy may be a servicable one if given early in large doses.

INEBRIATE HOSPITAL

The legislature is considering the needs of the inebriate. A bill has been introduced for the establishment of a special hospital under the supervision of the Board of Control. For many years a ward in the Rochester State Hospital for the Insane, was set apart for inebriates, but it was abandoned as impracticable, and since then it has been a problem how to care for this unfortunate class.

From many standpoints inebriety must be considered a disease; from other standpoints it is a vice. In either case the individual must receive proper attention, whether he is suffering from an uncontrollable tendency or is weak in

his general makeup. In all probability there is an instability or a defect in all persons who become the victim of drink or drug habits. To deal with this class requires as much study as to deal with other types of defectives. The individual who deliberately permits his self-control and self-respect to lead him into dangerous channels, is the victim of a vice. He is responsible for his actions and conduct, provided he is endowed with the necessary qualifications to make him a man. Yet many of the drunkards spring from neurotic stock or suffer from unfortunate environment that inherently makes them unstable. This class of men are frequently reclaimed, are reformed or they see the error of their ways after bitter experiences bring about their own restoration and moral balance. For such even there may be the need of an institution's care.

On the other hand those who come into the world handicapped by direct heredity, and the congenitally unstable, who spring from pseudo-criminal stock, who are weak-willed, or who, when confronted by great moral shocks, succumb to drink or drugs, are the men who must be aided in every possible way.

The true dipsomaniac is really insane, and is not as responsible for his short-comings as some of the other types of drunkards. For these there is no other remedy than an institution.

The drunkard, of whatever form, is looked upon by the general public as a nuisance and is considered responsible for his acts. The municipal authorities, particularly the police department, pay but little attention to the drunkard. He is arrested, abused, thrown into a cell, and either fined or imprisoned for his apparent misdemeanor. The result of such indiscrimination is bitterness, discouragement, and, not infrequently, death. If a proper investigation of all intoxicated persons were made to ascertain the form of drunkenness, many would be saved from chronic inebriety and restored to health and occupation.

The establishment of a modern hospital under competent medical supervision, situated in the country where fresh air, sunlight, and exercise on the bosom of mother earth could be had, together with indoor attractions to stimulate the interest of the patient, would accomplish wonders and reclaim for society a large number who are now a public or a private charge.

The therapeutics of the average drunkard should consist of kindly discipline, months of rest in a well-managed institution, the correction of physical faults, and suggestion. This last form of therapy is very important, as shown by the methods of the various so-called "cures." To stimulate hope and to encourage the patient is the main feature after physical rest is se-

cured. To do this it may be necessary to pattern after the means adopted by the commercial institutions until the public are better educated to the needs of the various individuals who make up a large class of dependents.

The chronic and hopeless cases should have the protection of the state thrown about them. They should be committed, restrained or detained for an indefinite period. Under such care and treatment a few would recover, and the rest would be under constant surveillance.

CHEAP LIFE-INSURANCE EXAMINATIONS

The Nicollet-Le Sueur County Society recently endorsed the State Association in the matter of charging \$5.00 for old-line life-insurance examinations, and all the members of the Society signed the resolution, and stand together solidly.

As a result of this action the N. Y. Life Insurance Company is unable to get a St. Peter physician to examine its applicants for the old \$3.00 fee. It was compelled recently to bring a low-priced doctor from Mankato, twelve miles away.

Looked at from any point of view, such action cannot but reflect upon the wisdom of the management of the N. Y. Life Insurance Company. If this company is willing to accept risks upon the examinations made by men who cannot hold their own in competition with the men who support medical societies, which represent the only organized effort in the medical profession for the profession's advancement in knowledge, then the result cannot be otherwise than disastrous to the company, at least in the matter of dividends.

A bad policy may be pursued a long time, but not forever.

CITY PHYSICIAN

Dr. E. H. Beckman, who was appointed Superintendent of the City Hospital in Minneapolis by Mayor D. P. Jones, has resigned his position in order to accept an offer by the Mayos at Rochester.

Dr. Beckman has been an unqualified success from every standpoint. The management of the executive department, the discipline of the hospital force, and the financing of the institution have shown what can be done by a man who is seeking the success of a large hospital. The training-school for nurses under Miss Erdmann has reached a high plane, and the whole tone of the hospital has been elevated.

Dr. Beckman could not resist the very flattering offer to become associated with the Mayos. City hospital positions are very uncertain, and

the opportunities for clinical advancement at Rochester are sufficiently attractive to draw Dr. Beckman from what promised to be his life-work.

Dr. O. E. Linger, formerly Assistant City Physician, has been appointed Superintendent, and will assume his duties April 1st.

Dr. Linger has had experience in executive work, and was for a time Secretary of the State Board of Medical Examiners. He was endorsed for the position of City Physician four years ago by the Hennepin County Medical Society, and still carries the good-will of the profession with him.

The Board of Corrections and Charities is to be congratulated on their choice, and Dr. Linger will have the most hearty support of his staff.

The City Hospital is growing rapidly, more buildings are to be added, and good officers are needed to carry on the work of caring for the city sick. The clinical advantages of the hospital will be greatly improved on the completion of the new amphitheater with its large seating capacity and its well-lighted operating department.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

The regular meeting of the Academy was held at the Minnesota Club, St. Paul, March 6, 1907. There were 26 members present. Dr. R. O. Beard presided.

The proposed amendment to the constitution was discussed. Dr. Wm. Davis moved to postpone action for one month. The motion was lost. Dr. Dennis moved that "the constitution be so amended that candidates for admission be first acted upon by the Executive Committee, and, upon their favorable action, presented to the Academy, when three adverse votes shall reject." Motion carried.

The president brought to the attention of the Academy a bill now pending in the legislature, which provides for the erection and maintenance of a detention hospital at each of the three State Hospitals for the Insane. After some discussion a motion was made that a committee be appointed by the chair to coöperate with similar committees from the Ramsey County Medical Society and the Hennepin County Medical Society to look after the matter. The motion was carried. The chair appointed Drs. Haldor Sneve, A. W. Dunning, and W. A. Jones as

the Academy representatives on the committee.

Dr. H. B. Sweetser reported a case of operation under spinal anesthesia.

Dr. Gillette read a paper entitled "Reports of Cases of Sciatica." The paper was discussed by Drs. Dunning and Sneve, and by Dr. Gillette in closing.

Owing to the lateness of the hour Dr. Schwyzer's paper was laid over until the next meeting.

A. W. DUNNING, M. D., Secretary.

HENNEPIN COUNTY MEDICAL

A regular meeting of the Hennepin County Society was held March 4th. In the absence of the president, the vice-president, Dr. A. T. Mann, occupied the chair. Forty members were present.

The Executive Committee recommended that the following motion be approved and adopted by the Society:

Moved, that the secretary of the Society inform Dr. J. A. Gates, chairman of the committee on Public Health and Pure Foods, that the Hennepin County Medical Society unanimously favors the act to amend Sections 2140 and 2141, revised laws 1905, and urge that the committee report the same for passage. Carried.

It was also moved that the secretary inform the secretary of the State Board of Health of the action taken by the Society. Carried.

The following named physicians were duly nominated for membership:

Dr. O. D. Alger, 410 14th Ave. S. E.

Dr. J. A. McLaughlin, Pillsbury Bldg.

A letter from Mrs. C. K. Bartlett was read, thanking the Society for their sympathy and their floral offering.

The scientific program being in order, Dr. G. C. Barton read a paper entitled "Inspection of the Uterus." The discussion was opened by Dr. L. A. Nippert, followed by Drs. H. L. Staples, L. W. Day, F. A. Dunsmoor, D. O. Thomas, O. S. Chapman, A. B. Cates and J. C. Litzenberg. The discussion was closed by the essayist.

Dr. A. W. Abbott read a paper on "Endometritis," which was discussed by Dr. J. F. Corbett. This paper was illustrated by a fine series of photographs.

Dr. A. T. Mann read a paper on "Empyema," and the same was discussed by Drs. H. L. Staples, F. A. Dunsmoor, and L. A. Nippert, the discussion being closed by Dr. Mann.

C. H. BRADLEY, M. D., Secretary.

BOOK NOTICES

CASE-TEACHING IN MEDICINE. By Richard C. Cabot, A. B., M. D., Instructor in Medicine in the Harvard Medical School. First Edition. Pp. 211. Boston: D. C. Heath & Co., 1906.

Anything coming from the pen of Dr. Cabot is sure to be of value, and this book, presenting a new idea in medical teaching, is especially so. The following sentences in the introduction strike the key-note of the book: "A man may collect with accuracy and thoroughness the data of the history and the physical examination, and then find that he does not know what they mean,—what judgment can safely be based upon them, which of them are of primary and which of secondary importance After the student has learned to open his eyes and see, he must learn to shut them and think, and, when he is thinking, the less he has to distract him the better. To aid the teacher in training his pupils to think clearly, cogently, and sensibly about the data gathered by physical examination is the object of this book."

The book is made up of a series of reports of cases, not written as a formal history, but as the notes would be obtained at the bedside, sometimes important facts being omitted. These histories are to be read to a class of students, from whom the diagnoses and criticisms of the histories are then obtained. At the end of each report is the diagnosis as ascertained by necropsy or otherwise, with reasons, explanations, and notes, these being for the use of the teacher only.

Altogether the book embodies a distinctly novel and most excellent idea, and will prove as helpful to the practitioner as to the student.

NEWS ITEMS

Dr. A. F. Hinz, of Minneapolis, died last month.

Dr. C. C. Hoagland has moved from Thief River Falls to Vebelen, S. D.

Dr. O. J. Hagen, State University, '06, has begun practice in Moorhead.

Dr. E. B. Oliver, of Heckla, S. D., is doing post-graduate work in Chicago.

Dr. L. H. Bussen has moved from Valley City, N. D., to Richardson, N. D.

Dr. Reinert Hetlesater has moved from Canton, S. D., to Baltic, in the same state.

Dr. F. L. Norin, of Roseau, is in the East for several months of special work in the hospitals.

Dr. N. H. Greenman, of Fairmont, N. D., is doing post-graduate work in the Chicago Polyclinic.

Dr. G. C. Hoff will have charge of the Lutheran Hospital of Zumbrota which is to be reopened.

Drs. H. A. and P. D. Peabody, of Webster, S. D., will build a hospital in the spring at that place.

Dr. A. W. Boslough, who has been practicing a short time in Belgrade, in this state, has moved to Dwight, N. D.

Dr. W. W. Brown, a State University graduate, 1902, has moved from Cavalier, N. D., to St. Thomas, N. D.

Dr. A. F. Groves of Brainerd has gone East for a couple of months' special study in diseases of the eye, ear, nose, and throat.

Dr. Theodore L. Hatch, of Owatonna, was so ill the first of the month that it was deemed wise to remove him to the city hospital.

Dr. Leonard A. Larson, a recent graduate of Rush, who has spent a year and a half in a Chicago hospital, has located at Montevideo.

Dr. Edward W. McEssy, a recent graduate of the College of Physicians and Surgeon of Milwaukee, has located at St. Thomas, N. D.

The work of remodeling the building of the old Le Roy Hospital at Litchfield is to begin at once. This will give Litchfield a first-class hospital.

A nurses' training-school has been opened at More Hospital, Eveleth. The course will be made to comply with any requirements that the state may make.

Dr. Richard F. Noth, of American Falls, Idaho, and Miss Genevieve O'Donnell, a graduate nurse of the Rochester State Hospital, were married last month.

Miss Alice Magaw, of St. Mary's Hospital, Rochester, read a paper before the Olmsted County Society last month entitled "A Review of 14,000 Surgical Anesthetics."

Dr. William Flynn, Hamline, '05, has located at Cavalier, N. D., taking the practice of Dr. Brown. Dr. Flynn has been in the St. Paul City and County Hospital since graduation.

Dr. Edward H. Beckman, city physician of Minneapolis, has tendered his resignation to take effect April 1st. He goes to Rochester as a member of the staff of St. Mary's Hospital.

Dr. Frank E. Boyden, of Brookings, S. D., has returned from Chicago, where he has been several months doing special work. Dr. Boyden spent a year in St. Mary's hospital, Rochester.

Dr. F. W. Penhall, of Morton, was very seriously injured a couple of weeks ago. He was thrown from his buggy, and the thigh bone was so shattered that he may be unable to walk for several months.

Dr. N. T. Reinhart, the well-known surgeon of Ashland, Wis., will probably lose one of his eyes as the result of an accident in the Elk's shooting gallery of that place. A fragment of a bullet pierced the eye.

The handsome gift of \$50,000 made to the Winona General Hospital by Mr. Matthew G. Norton, of that city, was in the form of four-per-cent 50-year bonds of N. Y. City. The income is to be used exclusively for running expenses.

Dr. Robert Williams has moved from Alden to Minneapolis. Dr. Williams is a graduate of Rush, 1900. He practiced six years at Alden, and after doing special work in St. Luke's Hospital, Chicago, he came to Minneapolis, and is located at 2839 Chicago avenue.

Dr. C. D. Vilas died at Lake City on Feb. 13th at the age of 84. He graduated from the medical department of the University of Vermont in 1846, and located in Lake City in 1856. He was known as a competent medical practitioner and as a man of sterling character.

Dr. J. F. Whiting, of Spencer Brook, died on February 13th of pneumonia. Dr. Whiting was a graduate of the University of Michigan, class

of '78, and had practiced in this state about twenty years. He was a member of the A. M. A., the State Association, and was president of the Central District Society.

Dr. Fred Schacht, a recent graduate of the State University, and a famous foot-ball player, died a few days ago in Seattle of Bright's disease. He carried into his medical work the same enthusiasm that characterized his foot-ball playing, and had his life been spared he would have taken high rank in the profession.

FOR SALE

A 16-inch Western X-Ray Coil and double-resonator high-frequency apparatus. As good as new. For sale at a bargain. Address Dr. B., care this paper.

PHYSICIAN WANTED

A junior assistant at the St. Peter State Hospital for the Insane is wanted. Salary, \$800 a year; service, three years. Address Dr. H. A. Tomlinson, Supt., St. Peter, Minn.

FOR SALE

A practice of \$3,000 a year, in a city of 2,500 inhabitants in Southern Minnesota, will be turned over to the purchaser of my residence at \$500 less than the residence cost. \$500 cash will handle the deal. Address S., care of this journal.

POST-GRADUATE WORK

Doctor: If you want practical post-graduate work during the fine season in the delightful city, write for particulars, to New Orleans Polyclinic, post-graduate department of Tulane Medical College, P. O. Box 797.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF DECEMBER, 1906

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF JANUARY, 1907

STATE INSTITUTIONS.	Total Deaths	Deaths of										
		Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever
Fergus Falls, Hospital for Insane.....	11	4	2									
Rochester, Hospital for Insane.....	10	1										1
St. Peter, Hospital for Insane.....	6											
Anoka, Asylum.....	0											1
Hastings, Asylum.....	0											
Faribault, School for Deaf.....	0											
Faribault, School for Blind.....	0											
Faribault, School for Feeble Minded.....	2		1									
Owatonna, School for Dependents.....	0											
Stillwater, State Prison.....	1											
St. Cloud, State Reformatory.....	0											
Red Wing, State Training School.....	0											
Minneapolis, Soldiers' Home.....	5				1							
Totals.....	35	6	3		1						1	1

REPORTED FROM 71 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF JANUARY, 1907

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Albert Lea.....	4,500	5,657	6	1	1	1											
Anoka.....	3,769	4,053	4	1		1											
Austin.....	5,474	6,489	3														
Barnesville.....	1,326	1,566	*	*					1								
Bemidji.....	2,183	3,800	*	*													
Blue Earth.....	2,900	2,364	1														
Brainerd.....	7,524	8,134	15	1		1			1								
Chaska.....	2,165	2,085	*3	1													
Chatfield.....	1,426	1,300															
Cloquet.....	3,074	6,117	1								1						
Crookston.....	5,359	6,794	2														
Detroit.....	2,060	2,149	2														
Duluth.....	52,968	64,942	73	8	2	9	1	1	1					1	3		2
E. Grand Forks.....	2,077	2,489	*	*													
Ely.....	3,712	4,045	8	4				1									
Eveleth.....	2,752	5,332	12		1	3											
Faribault.....	7,868	8,279	12	2	1	2											
Fairmont.....	3,440	2,955	0														
Fergus Falls.....	6,072	6,692	2														
Granite Falls.....	1,214	1,340	1														
Hastings.....	3,811	3,810	*														
Hutchinson.....	2,495	2,489	1														
Jordan.....	1,270	1,311	1														
Lake City.....	2,744	2,877	4														1
Litchfield.....	2,280	2,415	0														
Little Falls.....	5,774	5,856	3														
Luverne.....	2,223	2,272	0														
Le Sueur.....	1,937	1,842	2			1											
Madison.....	1,336	1,604	2	1			1										
Mankato.....	10,559	10,996	6	1	1											1	
Marshall.....	2,088	2,243	*														
Melrose.....	1,768	2,151	*														
Minneapolis.....	202,718	261,974	265	27	4	38	5	2	1			1	1	4	8	1	12
Montgomery.....	979	1,281	1														
Montevideo.....	2,146	2,595	1														
Moorhead.....	3,730	4,794	7			2								1			
Morris.....	1,934	2,003	1														
New Prague.....	1,228	1,419	2														
New Ulm.....	5,403	5,720	2														
Northfield.....	3,210	3,438	*														
Ortonville.....	1,247	1,612	2	1													
Owatonna.....	5,561	5,651	6			1			1					1			
Pipestone.....	2,536	2,885	2														
Red Lake Falls.....	1,885	1,797	1					1									
Red Wing.....	7,525	8,149	*														
Redwood Falls.....	1,661	1,806	0														
Rochester.....	6,843	7,233	18	1		2		1									2
Rushford.....	1,100	1,133	3	1		1											
St. Charles.....	1,304	1,238	*														
St. Cloud.....	8,663	9,422	8			2								1	1		
St. James.....	2,607	2,320	2														
St. Paul.....	163,632	197,323	193	27		32	7	2	1			2		3		1	3
St. Peter.....	4,302	4,514	2														
Sauk Centre.....	2,220	2,463	3			1											
Shakopee.....	2,046	2,069	1	1													1
Sleepy Eye.....	2,046	2,312	2														
So. St. Paul.....	2,322	3,458	11	2						1							
Stillwater.....	12,318	12,435	7			2											1
Thief River Falls.....	1,819	3,502	4			2											
Tower.....	1,366	1,340	2														
Tracy.....	1,911	2,015	*1									1					
Virginia.....	2,962	6,056	*														
Wabasha.....	2,528	2,619	*														
Warren.....	1,276	1,640	2														
Waseca.....	3,103	2,838	*														
Waterville.....	1,260	1,383	2	1													
West St. Paul.....	1,830	2,100	2		1												
Willmar.....	3,409	4,040	4	1													
Windom.....	1,944	1,884	3														
Winona.....	19,714	20,334	18	3		3											
Worthington.....	2,386	2,276	2														1

*No report received

REPORTED FROM 66 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF JANUARY, 1907

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Ada.....	1,253	1,515	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Adrian.....	1,258	1,184	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Aitkin.....	1,719	1,896	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Akeley.....	..	1,636	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Alexandria.....	2,681	3,051	1	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Appleton.....	1,184	1,321	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Belle Plaine.....	1,121	1,301	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Benson.....	1,525	1,766	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Breckenridge.....	1,282	1,850	5	1	..	..	..	..	..	..	..	..	..	2	..	..	..
Buffalo.....	1,040	1,124	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Caledonia.....	1,175	1,405	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Canby.....	1,100	1,505	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cannon Falls.....	1,239	1,460	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cass Lake.....	546	1,062	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chisholm.....	..	4,231	7	..	..	1	..	..	..	..	..	..	..	..	2	..	..
Dawson.....	962	1,056	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Delano.....	967	1,023	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Fosston.....	864	1,000	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Frazee.....	1,000	1,146	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glencoe.....	1,780	1,805	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glenwood.....	1,116	1,713	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Graceville.....	856	1,032	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grand Rapids.....	1,428	2,055	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hallock.....	805	1,014	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hibbing.....	2,481	6,566	11	1	..	3	..	..	..	..	..	..	..	..	..	..	..
Jackson.....	1,756	1,776	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Janessville.....	1,254	1,205	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kasson.....	1,112	1,049	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Kenyon.....	1,202	1,252	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Crystal.....	1,215	1,231	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lanesboro.....	1,102	1,041	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Long Prairie.....	1,385	1,256	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madelia.....	1,272	1,290	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Milaca.....	1,204	1,319	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mountain Lake.....	959	1,063	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Mankato.....	939	1,129	6	1	..	3	..	..	..	..	..	..	..	..	..	..	..
North St. Paul.....	1,110	1,400	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Olivia.....	970	1,019	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Osakis.....	917	1,056	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Park Rapids.....	1,313	1,719	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pelican Rapids.....	1,033	1,095	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Perham.....	1,182	1,366	*	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Pine City.....	993	1,092	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Plainview.....	1,038	1,140	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Preston.....	1,278	1,320	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Princeton.....	1,319	1,704	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Renville.....	1,075	1,229	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rush City.....	987	1,041	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rushford.....	1,062	1,040	3	1	..	..	..	..	..	..	..	..	..	..	..	..	1
St. Louis Park.....	1,325	1,491	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sandstone.....	1,189	1,589	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Sault Rapids.....	1,391	1,552	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scanlon.....	..	1,122	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Stillwater.....	1,422	1,572	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Springfield.....	1,511	1,546	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Spring Valley.....	1,770	1,573	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Staples.....	1,504	2,163	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Two Harbors.....	3,278	4,402	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wadena.....	1,520	1,868	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Wells.....	2,017	1,814	5	..	..	4	..	..	..	..	..	..	..	..	..	..	..
West Minneapolis.....	2,250	2,530	7	1	..	2	..	..	..	..	..	..	..	..	..	..	..
Wheaton.....	1,132	1,346	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
White Bear Lake.....	1,288	1,724	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winnebago City.....	1,816	1,553	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winthrop.....	813	1,031	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Zumbrota.....	1,119	1,129	0	..	..	1	..	..	..	..	..	..	..	..	..	..	..
State Institutions.....	..	..	35	6	2	1	..	..	..	..	..	..	..	..	..	..	1
Other parts of State.....	1,012,328	1,085,886	490	54	4	72	8	6	1	3	..	3	2	5	7	5	19
Total for State.....	1,751,395	1,979,658	1345	152	17	203	23	14	7	4	1	5	5	26	22	8	146

Still births and premature births, 72 (not included in above totals).

*No report received.

THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

VOL. XXVII

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No. 7

THE SIGNIFICANCE AND DANGER OF A CHRONIC OTORRHEA*

By C. J. SPRATT, M. D.

MINNEAPOLIS

Within the memory of living men, the limits of human knowledge, in the arts and sciences, have been further advanced in the unknown than during any equal period of time since the beginning of history. The sum total of facts, has become so large and unwieldy that a single mind is capable of grasping only a small portion. As the direct result of this, men have confined their energies to a limited field. We see this specialism in chemistry and other sciences. We have electrical engineers, civil engineers, and mechanical engineers. It has in a measure appeared in the legal profession. Criminal, civil, and, in recent years, corporation and trust lawyers have demonstrated that specialism is an advantage to the client. This tendency towards specialism is perhaps best shown in our own profession, and while it is not without disadvantages, we must admit that it is the only solution for present and future conditions.

As one's knowledge along a special line increases, common or insignificant signs and symptoms, often overlooked by others, have a deeper and more important meaning. The average man watching the heating of a piece of steel, will notice a succession of beautiful colored oxides form on the metal. To the skilled workman each

color tells a different story. From experience and observation he knows that a yellow color indicates a definite degree of hardness, or a blue-colored oxide means that the metal is soft and elastic. The same is true along medical lines: certain symptoms, often considered trivial by the patient, are of great importance to the physician in arriving at a diagnosis or in giving his prognosis. Likewise other symptoms, considered of no consequence by the general practitioner, are of great significance to the specialist.

This morning I desire to call your attention to the significance and danger of chronic otorrhea, a condition too often regarded merely as an inconvenience by both patient and family physician, when, in the light of modern otological knowledge, it must be considered a serious condition and often a menace to life. This attitude of indifference is easily explained by the fact that modern otology hardly dates back more than a score of years and that knowledge spreads slowly. Although Petit, in 1750, recognized and operated upon a bad case of mastoiditis and Wilde of Dublin, sixty years later, incised a subperiosteal abscess, ear surgery, up to thirty years ago, was largely in the hands of what we would call the general surgeon. Forget (1849), Billroth (1867), and Rouge (1869) reported cases of mastoiditis relieved by operation. We must

*President's Address, read before the Minnesota Valley Medical Association, December 3, 1905.

also mention Crosby (1864), who, in the mountains of New Hampshire, operated successfully upon three cases of mastoiditis by means of a gimlet. In 1873 Schwartze of Halle reported 50 operations for mastoiditis. Since then the disease has been well recognized, and thousands of cases have been relieved by operation. The first operation for thrombosis of the lateral sinus was done by Zaufal (1884), and the first reported case of cerebral abscess of the temperosphenoidal lobe diagnosed and operated upon was Macewen's, in 1881.

It is only in recent years that attention has been directed to the serious and often fatal complications of chronic purulent otitis media. The time is past when intelligent medical men can believe, as did the otologists a few years ago, that a chronic otorrhea is merely an inconvenience, and had best be left alone. The pernicious advice, too often given to parents, that their child will outgrow a running ear, is in the light of modern surgical knowledge, dangerous and, in my opinion, criminal. Let us consider, briefly, the significance of a chronic otorrhea.

The term *chronic* is a more or less arbitrary one, and is generally applied to the condition, when, after three or four months appropriate treatment, the discharge continues and the ear shows no sign of healing. With the exception of tuberculous otitis media, the onset of which is so insidious that the patient is unaware of the disease, all chronic cases follow an acute purulent otitis media.

We know that in all cases of chronic otorrhea there is a perforation of the tympanic membrane; complete destruction is, however, rare. In the early cases the mucoperiosteum, lining the tympanic cavity, is thickened, edematous, and infiltrated. Frequently granulations and polypi are present. Often a peculiar formation takes place. The epithelium of the tympanic membrane grows into the middle-ear cavity through the perforation in the drum, and the middle ear thus becomes lined with epithelium. The cells are rapidly desquamated and a white, cheesy-like mass, consisting of broken down epithelial cells, fat, and cholesterol crystals, form in the cavity. Cholesteatomatous formation is more often seen where the perforation is small and the discharge is scant.

That an inflammation of the middle ear can persist for any considerable length of time without extending to the bone, is highly improbable. Often this caries is confined to the ossicles. Of these the incus, on account of its limited blood-supply, is most frequently involved. The tegmen tympani, or roof of the tympanic cavity, is also frequently the site of necrosis. The bone

about the antrum and about the labyrinth is diseased perhaps next in frequency. Cases have been reported in which a sequestrum, consisting of two turns of the cochlea or of the entire labyrinth, have been removed.

This chronic osteomyelitis, slowly, painlessly and hidden from view, gradually extends. Like the miners and sappers tunneling toward a fortress, no one knows what is going on beneath the surface until a mine is exploded and the damage is done. We need but look at a temporal bone and see the thin plate separating the tympanum and cranial cavity, to realize how easily infection can extend to the brain. In addition to the direct extension, the infection may travel along the lymph-channels through some of the small foramina, or a small vein may become thrombosed and the infection thus enter the cranial cavity.

The inhabitants of Pompeii or of St. Pierre enjoyed prosperity and a degree of security; so does the individual with a chronic otorrhea. It may be on the morrow that the slumbering fires will kindle afresh and an acute mastoiditis or some intracranial complication will develop. When we consider the proximity of vital parts to the temporal bone,—cerebrum anterior above and on the mesial side,—the lateral sinus and cerebellum posterior, the facial nerve and internal ear within the substance of the bone, the carotid artery below,—we must admit that he who described this bone as being bounded on four sides by death and on the fifth by the world, was not far from the truth.

What, then, are the dangers of this condition to the individual? I mention only furunculosis, chronic eczema of the external auditory canal, facial paralysis, attacks of otalgia, anemia, general poor health, and amyloid degeneration of internal organs, and will pass to those complications that are so serious as to involve life itself.

The first of these is acute mastoiditis. What proportion of these cases are grafted on a chronic otitis media, it is a difficult question to answer. Such occurrence is, however, common. In a series of over 200 cases observed by myself, nearly twenty percent of these followed a chronic otitis media.

The intracranial complications, brain abscess, epidural abscess, lateral sinus thrombosis, and meningitis, are the most important, as they more frequently menace life. It is a fact that these intracranial complications are far more frequent in chronic otitis media than they are in acute cases. In a series of 169 cases of intracranial complications due to ear diseases, Allport found that a hundred and eighteen followed a chronic, and only 10 were secondary to acute otitis media.

In 41 cases the cause was not mentioned. Gruber found in 40,073 autopses from the Vienna General Hospital, 232 deaths due to cerebral complications of otitis media. Pitt, in 9,000 consecutive autopses, found 54 deaths from ear complications, and Barker reports 45 deaths in 8,028 autopsies. Schwartz reports 30 deaths from ear complications in 8,425 aural patients in the Prussian army.

Statistics are, however, not reliable, as they do not show the true proportion of fatal complications following otitis media. Many deaths occur in general hospitals or in the patients' home, and the ear condition is not recognized. Meningitis not infrequently occurs in children, and the ear condition is overlooked.

It is a noteworthy fact that in the series of cases collected by Allport nearly 85 percent of these were below 35 years of age. We see that the intracranial complications of a chronic otitis media occur most frequently in young adults, those whom, as a rule, we can from an economic standpoint least afford to lose. I doubt if any of the leading life insurance companies will accept a man with a chronic otorrhea. It is true that every person with this condition does not die directly or secondarily from it, neither does every case of appendicitis have a fatal termination. Life insurance statistics show that the deaths from brain abscess are twenty times more frequent now than they were a quarter of a century ago. In other words, the diagnosis, as in appendicitis, is made to-day where formerly, the disease was not recognized.

Cases of thrombosis of the lateral sinus, now so frequently reported, are a condition only recognized in recent years. Formerly such cases were called malaria, typhoid, pneumonia, or brain fever. In 1884 Zaufal, already mentioned, operated upon the first case of sinus thrombosis. The condition is now frequently recognized, and relieved by operation, although a score of years ago the disease was unknown. It is a question whether or not an infective sinus thrombosis is ever secondary to anything, except a purulent ear.

Cerebral abscess, already referred to, occurs in over 80 percent of cases secondary to an infection in the temporal bone. This is far more common in chronic than in acute otitis media. Politzer gives the proportion of chronic to acute as 3 to 1; Jansen as 5 to 1, and Grünert gives brain abscesses of otitic origin as being ten times more frequent in chronic than in acute otitis media. Epidural abscess is more frequent in acute cases than in chronic.

Meningitis may follow either an acute or chronic otitis media, the relative frequency being about equal. Heine reports 63 cases, 31 of which

followed an acute otitis and 32 were secondary to a chronic condition.

It was not my intention to discuss the treatment of chronic otitis media. The question, however, may be asked, What can be done to relieve the patient of the annoying discharge and prevent serious complications?

First. *Prophylaxis*.—If in every case of acute otitis media the bulging tympanic membrane is incised early, thus giving sufficient drainage to the middle ear, chronic purulent otitis media would be much less frequent. Nature endeavors, in almost every case, to evacuate the pus by perforating the drum, and thus secure drainage. This, however, may occur days after the onset of the disease and too late to prevent a considerable amount of damage to the ear, or the perforation may be too small to give sufficient drainage.

Second. *Cleanliness*.—This is to be obtained by dry treatment when the discharge is scanty, or by irrigation if it is foul and profuse. Of the value of antiseptics in the treatment of otitis media I am rather skeptical. It is a question whether or not the fluid penetrates deep enough to get at the seat of the disease.

Third. *Free Drainage*.—In any chronic condition this is absolutely necessary. If polypi be present they should be removed. If the opening in the tympanic membrane is small or in the upper portion, free drainage must be secured by enlarging the opening.

Fourth. In children adenoids, if present, must be removed. Frequently such cases resist all treatment until the nasopharynx is cleared of these growths.

Fifth. *Operation*.—If the otorrhea persists after the above outlined treatment has been carried out, or if the discharge is profuse, of long duration, and with a foul odor, and contains granules of carious bone and particles of cholesteatoma, operation should be advised, just as in the case of a chronic osteomyelitis of any other bone.

Some eight or ten years ago ossiculectomy and curettage of the middle ear through the external auditory meatus, was frequently performed. In recent years this operation has fallen into disrepute, and otologists prefer the open methods, as this is safer for the patient and is followed by better results. Küster (1889) was one of the first to insist on the free opening of the middle ear cavities and operating under the direction of the eye. Zaufal and Stacke have both described operations with the same end in view, but by slightly different methods.

The principle of the radical operations is to remove all the diseased tissue and convert the tympanum, aditus, and antrum into one large

cavity, having a large opening to the exterior for drainage and dressing. This cavity in time becomes lined with epithelium. The operation in brief is as follows:

A curved incision is made behind the ear, the antrum is entered through the cortex in Zaufal's method, or, according to Stacke, through the aditus. The posterior wall of the bony canal is removed, thus converting the three cavities into one large kidney-shaped cavity. The lining of these cavities, with the ossicles and all carious bone is removed. The membranous portion of

the external auditory canal is split, and the flaps are reflected so as to partially line these cavities. Thiersch grafts may be cut from the skin of the arm or leg, and be used to line the cavity. This procedure materially diminishes the time of healing. In the majority of cases the discharge is done away with. In all cases free drainage is obtained, and the possibilities of serious secondary complications are reduced to a minimum. Should there be any discharge after the radical operation, the ear is easily kept clean by the patient.

THE ADMINISTRATION OF MERCURY IN THE TREATMENT OF SYPHILIS*

BY GEORGE P. CRUME, M. D.

MINNEAPOLIS

Mercury is generally accepted as our most potent remedy in the treatment of syphilis, though there is great diversity of opinion, not only as regards the method of administration, but as to the particular preparation.

Our methods of administration are known as internal, external, and subcutaneous, or hypodermic. Of these, the internal method is the older and in this country most used; in Europe, and especially in Germany, the external method is more employed. The subcutaneous method was introduced by Lewin about 40 years ago, but gained favor very slowly until a score of years since. To-day there are syphilographers in practically every country of the world, who prefer this method, and certainly it gives much promise of becoming the method of the future. In this paper I shall endeavor to review these methods and finally speak of their comparative merits.

Internally, many different preparations are used, such as protiodide, biniodide, bichloride, calomel, gray powder, tannate, blue mass, and numerous other combinations of the metal. Doubtless every one of these preparations has given strikingly good results in many cases of early syphilis, and this is not a matter of surprise if we remember that mercury is a specific, and that the early lesions usually yield kindly. The

protiodide and gray powder are very popular preparations and are given continuously for two or three years by many physicians. The bichloride is much used in charity practice because of its cheapness.

Externally, we have fumigations with calomel, sublimate baths, inunctions (for which metallic mercury is combined with lard, lanolin, vaselin, vasogen, or resorbin, etc.) and local applications. Fumigations with calomel and sublimate baths are indicated only in cases with extensive ulceration of the skin. Inunctions are used extensively with much favor and good results. From 30 to 50 rubs with an average dose of $\frac{5}{8}$ of 33 $\frac{1}{3}$ per cent of mercurial ointment covering a period of six to eight weeks during which time the gums are perceptibly touched, is the usual routine.

As all of you are familiar with the above methods, we shall now consider in more detail the subcutaneous method or the administration of mercury by means of hypodermic injections. Under this heading we have three divisions, designated as subcutaneous, intravenous, and intramuscular.

Our technic and the site for injection are important considerations. The skin and our hands may be prepared according to fancy. Soap and water followed by alcohol or ether answer very well. Cleanliness, or asepsis, is always preferable. A slip syringe with glass barrel is best, but the tips may safely be hard

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rubber or metal. The proper needle is very important. It should be clean, very sharp, and well polished. The caliber should not be larger than necessary to carry solution, and give sufficient stiffness to secure against breaking. The length of the needle is a very important consideration. For intravenous injections a platino-iridium needle one-half an inch in length; for intramuscular injections either an iridium or good steel needle from one and one-half to three inches long, is preferable. Superficial injections into the loose tissue are never advisable.

Intravenous injections are made into the superficial veins. The forearm offers the most accessible and convenient vessels. The site being determined and prepared a tourniquet is placed to the proximal side. When the vein becomes tense the needle is introduced at an angle of 45° with a rather sudden thrust, the point being proximal. When in proper position the point of the needle is freely movable showing that it is in the lumen of the vein. The compress should then be removed, and the injection made in the direction the blood-stream is flowing.

For intramuscular injections the best location is the buttock. If we divide this region into three equal parts with two vertical lines, then we find the site of predilection along the inner line and above where it would be pressed in the sitting posture. The injection is best given with the patient lying upon the abdomen or standing, the weight being upon the limb opposite, so as to relax the gluteal muscles. The next important thing is that the injection be made intramuscular and into the deep muscles. For this purpose we should use a long needle, the length being in direct proportion to the amount of adipose tissue. The needle should be inserted perpendicular to the surface, never pinching the skin, and with a sudden thrust. When the injection is thus deposited deep into the muscles, absorption is more perfect, the pain is less, and the inflammatory nodes are not encountered.

For hypodermic use we have soluble and insoluble salts. These offer different advantages. The soluble preparations are rapidly absorbed and should be repeated every day or every second day. The insoluble salts form deposits which are gradually assimilated, and consequently they do not require to be repeated oftener than once or twice a week.

The most frequently used soluble salts are bichloride, biniodide, benzoate, cyanide, and succinimid. These are generally used in 1 per cent solution, of which 1cc. represents the average dose. Of the insoluble preparations

we use metallic mercury in the form of grey oil, calomel, yellow oxide, or the salicylate suspended in liquid vaseline, paraffine, or olive oil. Five or 10 per cent is the usual strength in which these suspensions are administered, the dose being from 0.5 to 1cc.

So far, we have spoken of the dose of the different salts only in a general way, but when we come to give any preparation hypodermically an exact dosage is indispensable. Too frequently we forget that the salts differ greatly in strength, that is, in the per cent or quantity of mercury contained. For example, calomel contains 84.9 per cent of mercury; cyanide contains 79 per cent of mercury; corrosive sub. contains 73 per cent of mercury; salicylate contains 59 per cent of mercury; benzoate contains 45 per cent of mercury; biniodide contains 44 per cent of mercury.

We readily see that 1cc. of a 5 per cent solution of calomel contains nearly twice as much mercury as 1cc. of the same strength solution of biniodide. We must bear in mind that the clinical effect of these different salts in their combinations cannot be estimated with mathematical accuracy; yet the quantity of mercury that any preparation contains can be determined, and in this is the principal explanation of the varying results produced by the different preparations.

In the treatment of infants with hereditary lues hypodermic injections of the bichloride are being used with success and satisfaction. The injections is repeated every five or seven days and continued until four or six are given. After an interruption of four or five weeks, treatment is again resumed. Toxic effects are manifested by mild intestinal disturbance.

In the administration of mercury the principle of intermittent medication should always be followed; that is to say, the treatment is carried out in a series of courses, each of which is followed by a period of rest. These intermissions in the treatment are of great importance, as they prevent the patient from becoming habituated to the drug. Without them after two or three months of continuous treatment the drug produces less and less effect, and the disease may act as if it were not being treated. At the beginning of an attack of syphilis the periods of repose should be shorter—say three to five weeks—then lengthened, and so regulated that the patient will receive about five months' treatment during the first year; three or four months' treatment during the second year; and two months' treatment during the third year of the disease. At the onset of treatment, at the time of the early secondary manifestations, it is advisable

to push the treatment, gradually increasing the dose until the patient's tolerance is ascertained. Once learned, this maximum dose should be maintained most of the time during the first two or three courses of treatment, eradicating the virus so far as possible, not only mitigating relapses but rendering them less frequent, and thus diminishing the number of cases of late syphilis.

To determine the individual resistance, or the maximum dose, is often a difficult problem; but it is best accomplished by beginning with a small dose and gradually increasing it until some reaction is produced. This may manifest itself by malaise and slight fever, by pain in the angle of the jaw, by metallic taste and irritation of the gums, or by intestinal colic and diarrhea. Many of our text-books of a decade ago and some of recent date, report very discouragingly on this method, especially emphasizing the dangers of abscess and pulmonary emboli; but one need not fear the result if ordinary care is exercised.

It will not be attempted at this time to give a detailed account of the merits and demerits of these methods, but briefly to state the leading points.

Let us first concede that the taking of mercury into the system by any method is neither a pleasure nor a question of levity; but one of serious moment to the victim of lues. Upon the treatment much depends. It may be too vigorous, or too long-continued; but certainly it should be effective.

The internal administration, in solution, powder, or pill, is directly as convenient as it is inaccurate and ineffective. The patient's digestion and assimilation are always disturbed and frequently to such an extent that we do not

control the disease, but simply modify it. The amount of the medicine absorbed and utilized varies greatly at different times, even in the same subject. Our patients are wise, or think they are, and in a short time feel able to dispense with our learned advice. Then they deal just with the druggist.

Instructions are always unfriendly to privacy and opposed to cleanliness, but more effective than accurate. The remedy is in the patient's hand, and he or she is supposed to spend about one-half hour each night in rubbing it into the skin during a course of treatment. If the patient is at a famous spa he may rub on an ounce or two daily. In hairy people and those whose skins are easily irritated, this method is particularly objectionable. It is not accurate, for we know that only a small and indefinite percentage of the mercury is utilized. Many of our patients know that without our assistance they can also obtain this dark salve of the apothecary.

After considerable experience with hypodermic injections, the chief objection, if not the only one, that I would oppose to their many advantages is, they are painful. In those greatly debilitated by other diseases, or having nephritis, and in fat people, they are not suitable; but generally they are well borne, accurate, and effective, bringing the patient under the influence in the shortest possible time and in the most potent and reliable way, some of the advocates of the hypodermic believing that it is possible, by this method, at the onset of the disease, to completely eradicate it in a few months. Certainly, it makes relapses, not only less severe and frequent, but obstinate, virulent, and malignant types a rarity.

SURGICAL DIAGNOSIS*

By JAMES E. MOORE, M. D.

MINNEAPOLIS

The term *surgical diagnosis* is objectionable, and should be discontinued. No case should be considered as *medical* or *surgical* until the diagnosis is made. The methods of medical and surgical men should be so uniform that their findings will always be the same in a given case. After the establishment of the germ-theory as applied to surgery this branch made such rapid strides

that many were induced to take it up as a specialty, and the tendency was for medicine and surgery to drift apart. The medical man was too prone to draw conclusions from subjective symptoms, and the surgeon to make his diagnosis with the knife. Happily, within the past few years, the tide has turned, and we are getting closer together every day. The professional millennium will have arrived when a patient receives the same diagnosis and treatment no matter which

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he consults first, a physician or a surgeon. Specialism is a necessity because it is impossible for one person to be equally skilled in all branches, but in diagnosis, outside of certain laboratory and instrumental methods, there should be no specialism. In borderland cases requiring refinement in diagnosis, in order to secure the best results for all concerned, the physician, the surgeon, and the laboratory man must combine their skill. It is the exception when a trained man of ripe experience in any one of these specialties feels the need of a consultant of his own kind, but each one feels the need of advice of the others almost daily.

Surgical technic has become so perfected in all departments, except the surgery of the lung, that we can undertake, with the greatest assurance of success, operations which only a very few years ago would have been considered impossible. Our success in asepsis is now so perfect that a death from asepsis in the hands of a good surgeon is rarely seen. This aseptic technic is so carefully taught in our medical schools, and is so readily learned, that it has become in one sense a menace to the public because too many inexperienced men have concluded that because they can secure primary wound-healing they have licenses to perform operations that should be undertaken only by surgeons of acknowledged skill and experience.

While our technic was being perfected our journals were filled with articles on technic, and our society meetings were taken up so much with the discussion of technical points that diagnosis did not receive the attention to which it is entitled. Happily for us and our patients, the diagnosis era has arrived, and is the live topic of the day. This is the logical sequence of events, for of what avail was it to diagnosticate all manner of maladies now classed as surgical so long as our technic was so faulty that we had no remedy to offer but drugs, or so long as a surgical operation was infinitely more dangerous than the disease for which it was undertaken?

It has been aptly said that you can cure any disease if you only make a wrong diagnosis. This is the stronghold of the quacks who publish numerous testimonials of the cure of incurable diseases. They have simply given a grave name to a simple malady, and nature has brought about the cure for which they claim credit.

The prevailing idea has been that diagnosticians are born, but nowadays they are made by careful training. A grave operation should never be based upon a diagnosis made by intuition. There is no question but that some men have exceptional natural ability as diagnosticians, just as others have exceptional ability in other directions, but this ability without proper training is

liable to do more harm than good. "Snap diagnoses" may be all right as a pastime, but they should be given very little consideration in the practice of surgery. Men of natural ability and large experience learn to weigh the facts and to arrive at a diagnosis quickly, but their celerity is due to long experience, and not to intuition.

Method and observation should be the motto of every student of diagnosis. Method is absolutely essential to the man of moderate ability, and is of incalculable value to the man of genius. Only those gifted with keen powers of observation can become skilled diagnosticians.

In methodic diagnosis the anamnesis naturally comes first. The neglect of a careful study of the history of a case leads to many grave errors in diagnosis. The history should be brought out by careful, pointed questioning. The patient should never be allowed to give a rambling account of his illness, because it is a useless waste of time, and he is sure to give incidentally his own diagnosis and possibly that of a number of doctors, which may prove misleading and certainly detracts from the pleasure to be derived from the study of his case. Every young man who is ambitious should begin to keep written histories of his cases from the very first in order to establish the habit. If he neglects it until he has more cases to record he will always find an excuse for neglecting it. He should not be deterred from keeping case-histories in his early experience for fear they may be records of too many mistakes, because we learn much from our mistakes, and no man's records are free from mistakes, no matter what his age or experience. It is better, however, to keep no records than to keep records only of successful cases. The profession soon learn when a man publishes only his successful cases, and he becomes altogether discredited.

After the history naturally comes the physical examination, which should be thorough and complete. We have no moral right as physicians or surgeons to prescribe for a patient either medicine or an operation without a careful physical examination, no matter how clear or pointed the history may be. Not long ago a patient came to my office complaining of some very definite pains in her abdomen, and before beginning the physical examination I remarked that it was very evident that for one thing she had chronic appendicitis. Imagine my chagrin when she smilingly reminded me that I had removed her appendix five years previously.

When making a physical examination the examiner should never allow himself to be handicapped by the patient's clothing. They should be properly arranged, or when necessary entirely removed. Neglect of this simple rule is re-

sponsible for many oversights and mistakes. The physical examination in order to be thorough must be methodical. In examining an abdomen, for example, after placing the patient upon his back with the knees drawn up, the head slightly elevated and the abdomen thoroughly uncovered so that it can be inspected, the examination by palpation should begin at some one definite point, and extend systematically over the whole abdomen. A very good plan is to begin in the left inguinal region, passing up along the left side until the spleen and left kidney have been palpated; then across over the stomach, liver, gall-bladder, and right kidney; then down the right side to the appendix; and, finally, across the middle and lower abdomen to the original starting-point, after which vaginal and rectal examinations may be made. In this methodical manner a competent observer is not likely to overlook anything, but if he were to examine only the part to which the history calls attention he might very readily overlook some important matter.

In the physical examination certain instruments are of the greatest value, while others have fallen into disuse. The vaginal speculum, at one time considered so valuable, is now of very little use as a diagnostic agent, and the uterine sound has happily disappeared. Through bimanual examination the observer learns all that was ever learned through these instruments, and much more, without the discomfort of the speculum or the dangers of the sound.

Instruments for segregation of the urine are now quite practical and of very great value. Catheterization of the ureters should be employed very exceptionally, and always by one specially skilled, for, otherwise, harm and disappointment are sure to follow.

The cystoscope is now a very valuable aid to diagnosis and is growing more valuable every day. This is an instrument to be used only by the few. It is much better for a practitioner who has but few cystoscopic examinations to make to employ some one skilled in this work than to undertake it himself, for it requires skill only to be acquired by practice, and his unskilled efforts will lead only to disappointment, and the patient will fail to receive the benefit of the examination properly made.

The status of the x-ray as a diagnostic agent is now quite well established. It is indicated in every case of fracture or suspected fracture in the vicinity of a joint, for through its aid an absolute diagnosis can be made where it would otherwise be impossible. It is becoming a valuable means of diagnosis in renal, ureteral, and vesical calculi, and will eventually, I have no doubt, become absolutely reliable. This is also a diagnostic agent which should be in the hands

of those specially skilled. It is cheaper and better for the average practitioner to hire his x-ray work done than to undertake to do it himself. He should also ask advice in the interpretation of a skiagraph, for to his inexperienced eye it may be very misleading.

Within the recollection of many of those present the only laboratory aid to diagnosis was urinalysis, but at the present time we have so many helps through laboratory methods that there is danger we may overestimate their value. Those most skilled in laboratory methods are the ones who warn us against over-enthusiasm, for they know that laboratory methods of diagnosis are only of value when supplementary to clinical diagnosis.

The young practitioner who hopes to employ laboratory methods of diagnosis to the neglect of clinical methods is certain to meet with disappointment, and, on the other hand, the old practitioner who depends entirely upon clinical diagnosis is behind the times, and will surely and justly be crowded out by progressive men. A man's attitude in this matter is a better criterion as to his age than the number of years he has lived, for a man is young professionally only when he fails to recognize and profit by the experience of his seniors, and he is old only when he no longer progresses. In other words, a man is old in the profession as soon as he ceases to progress, no matter how few years he may have lived. The clock has struck twelve for him. The most skilled microscopist insists upon a clinical history to aid him in a diagnosis of malignancy, and the most accurate blood-examination is of no value in the diagnosis of typhoid without the clinical history. This is another instance in which specialism is an absolute necessity. We cannot all become skilled laboratory men, and we are therefore thankful that there are those who have the knowledge and experience to make these examinations for us. We all do some laboratory work, but in cases of doubt we are pleased to turn to the laboratory men.

The prime object of this paper is to urge the necessity for combining the various methods of diagnosis without being wedded to any one, and to point out the mutual advantage of consultation between men specially skilled in these various methods. We cannot have, and do not want, specialists in diagnosis, for we must all be diagnosticians, but we can secure the best results attainable by combining the skill of the different specialists. It is not enough in a surgical case that an internist or a laboratory man shall have assisted us in making the diagnosis. He should very often be present at the operation to council and advise, and often to learn. When an internist has worked conscientiously over a diagnosis in the upper abdomen it cannot fail

to be helpful to him in other cases to see just what the conditions are when the abdomen is opened in this case. I have always insisted that the neurologist be present to advise with me in operations on the brain, for I feel that I could not do my whole duty toward the patient without his advice.

Pathologists never learned that peritonitis is only a symptom, or that a hematoma or internal hemorrhage is due to ectopic pregnancy until they were demonstrated to them on the live subject.

After all these methods of diagnosis have been exhausted there remains, in some cases, particularly in the abdomen, a last resort, namely, the exploratory incision. There are certain cases, such as crushing injuries over the liver where the patient is in collapse, and in the gunshot- and stab-wounds of the abdomen in civil life, when the exploratory incision is the only method to make the diagnosis and save the patient's life, and should be resorted to promptly, but ordinarily it should be considered the method of last resort. Under these conditions it is a legitimate and necessary means of diagnosis. It should never be undertaken by one unskilled in aseptic technic, nor by one so lacking in experience as to be unable to recognize and treat diseased conditions when found; but when the diagnosis cannot be completed without it, the diagnostician should not hesitate to advise it. In obscure cases like early carcinoma of the stomach, where the patient's cure depends upon early diagnosis and treatment, this means of diagnosis should be resorted to early.

Through the proper use of these various means of diagnosis a man who is not a genius may become a good, safe diagnostician. It is through the neglect of some of them, or the lack of method in carrying them out, together with lack of observation, that most failures and mistakes in diagnosis are made. There are too many other sources of error even to mention in one brief paper, but it may not be amiss to indicate one or two. Symptoms are too often mistaken for disease. It is this mistake through which appendicitis, salpingitis, cholecystitis, and perforative lesions of the hollow viscera were diagnosticated as peritonitis, gall-stones as dyspepsia, and tuberculosis of the kidneys as cystitis. Many mistakes are made through the failure of the examiner to complete his examination, after having found one abnormal condition seemingly sufficient to account for the symptoms. I operated upon one patient for recurring appendicitis, who had been treated for a long time for cystitis by a very competent practitioner, whose bladder symptoms entirely disappeared shortly after the removal of his appendix, which was bound down over the

right ureter. I operated upon another patient who had suffered from several severe attacks of appendicitis, assuring him that a slight irritation of the bladder of which he complained would disappear after I had dissected his appendix out of his pelvis where it was bound. His health improved greatly after the operation, but the bladder symptoms did not disappear until after a Chicago surgeon removed a stone from his bladder some two years later.

The following is a very brief history of an interesting case, from a diagnostic standpoint, coming under my care the past week:

Mrs. O., aged 22. Good family history. Married three years; one child twenty months old; no miscarriages. Began menstruating fourteen months after baby was born, and has menstruated regularly, the last period ending November 12th. On November 19th, one week after menstruation ceased, she fell down stairs and began to menstruate again. On the evening of the 26th her husband telephoned a request that I see her the next morning. He stated that his wife had been suffering from chronic appendicitis for some time, which had been so aggravated by her fall that they had concluded that she had better have the appendix removed at once, as they had had the operation under advisement for some time.

I saw her on the morning of the 27th. She was in bed when I arrived, but had been up and down since her fall. Pulse and temperature were normal, and she had the appearance of a healthy woman. Her face was a little pale, but her lips were red, and she is a fair-haired, blue-eyed woman, and her color seemed natural. I found the usual evidences of chronic appendicitis, and that the diagnosis was correct is proven by the specimen here shown. The tenderness did not extend into the pelvis, but she stated that ever since her fall she had experienced some discomfort there and that whenever she got on her feet she felt weak and uncomfortable, which she attributed to the fall, followed by the premature menstruation. I advised her that it would be perfectly proper to remove the appendix, but that there was no urgent need for it so long as she remained in bed. She stated at once that she preferred to have it removed because she had been in constant dread of an acute attack and that since her fall she had suffered greatly from it. No vaginal examination was made because she was menstruating, and there seemed to be no special indication for it. She went to the Northwestern Hospital that afternoon, and the next morning, November 28th, I removed the appendix through a gridiron incision. Upon reaching the peritoneum it appeared blue, and upon opening it blood flowed freely from the peritoneal cavity. By passing my finger down through the opening toward the pel-

vis I could feel clots of blood and a solid mass. I promptly made a median incision and found the right Fallopian tube distended and bleeding freely from the frimbriated extremity. I removed it, and present the specimen. In this case I did not make a complete examination, and therefore failed to make a complete diagnosis. It is quite possible that I might not have been able to make the diagnosis at this early period, but the effort should have been made as a matter of routine. Every woman suffering from appendicitis should have a thorough pelvic examination before going

to the operating-table. The specimen is in a formalin solution, and has not yet been opened.

Is this a case of tubal pregnancy so early that it had not disturbed the menses or caused any symptoms until a tubal abortion was started by the fall, or is it a simple hemorrhage into the tube due to trauma? I am not prepared to answer this question until the specimen is hardened and cut. It was not cut fresh because so young a fetus as this would necessarily be, might very readily be overlooked. The patient is normal to-day.

HYDATID MOLES*

BY O. T. BATCHELLER, M. D.

BRAINERD, MINN.

In offering this paper, I do it in the way of reporting a case to you, not that I am offering anything which is new, but merely an interesting case, and in the hope that some of you will be able to discuss it and give us all some information, particularly as to the probability of malignancy following this condition.

I can find very little literature regarding this condition, aside from what you can all learn by reading your text-books on obstetrics.

Hydatid moles are the result of a cystic degeneration of the chorionic villi. This disease is characterized by the hypertrophy of the villi of the chorion and by their conversion into cysts, varying in size from that of a millet seed to the size of a grape, or even a hen's egg, connected with one another, and with the base of the chorion by pedicles of varying breadth. It is further distinguished by the rapid growth of the ovum and the consequent expansion of the uterus, usually at the third or the fourth month, by the escape of blood from the uterine cavity and by the premature expulsion of the ovum, which is covered over a greater or less part of its surface, with numbers of small transparent cysts. Within the cavity of the ovum an embryo may or may not be found.

This affection of the chorion from the peculiar and striking appearance which it gives to the ovum, has attracted much attention; and from the mystery which formerly surrounded its origin and the difference of opinion that existed as

to its etiology and minute anatomy, cystic degeneration of the chorionic villi, otherwise known as hydatidiform mole or dropsy of the chorionic villi, has been the subject of much discussion. It was first definitely described by Schenk. The most extraordinary theories have been advanced to account for its occurrence. Some of the early writers, as early as 1678, believed that each vesicle, or little cyst, was an unfecundated ovule, but earlier than this the belief had prevailed that each vesicle was a living embryo. Then followed the opinion that the existence of innumerable little cysts in the uterus and their final expulsion were dependent upon some disease or alteration of the ovule, and this belief, for a time, became generally adopted. A more definite explanation, however, was not attempted until in the early part of the last century, it was claimed that the vesicular disease depended upon the presence of echinococci. This was advanced by Cloquet and Madam Boivin. Velpeau was the first to indicate that the cysts were nothing but the distended chorion villi, and that was soon acknowledged to be indisputable.

Since Velpeau's announcement, cystic degeneration of the villi has been attributed to hypertrophy, edema, to disease of the blood vessels, to disease of the lymphatics, to degeneration of the mucous substances within the villi continuous with the substance of the chorion, and the degeneration of the epithelial cells derived from the decidua which replaced the epithelial covering of the chorion, and, finally, to the pathological changes which begin at a time when the villi are almost

*Read before the Upper Mississippi Medical Society, October, 1906.

hyperplasia of the syncytium. The process usually begins at a time when the villi are almost equally developed over the whole ovum, before the third month, and therefore when the vesicular chorion is expelled the disease is usually found equally distributed over the whole surface, showing no evidence of special development at any one point that might indicate where the placenta should have been situated. The general involvement of the whole chorion is the rule, but exceptionally the placenta alone is affected, the disease having doubtless, in such cases, begun after the atrophy of the villi had taken place over the extraplacental portion of the chorion; still more rarely will the disease be found in isolated spots around the chorion. There are recorded cases in which one chorion of a twin conception was vesicular while the other remained normal.

According to the foregoing explanation, the disease is a true myxoma of the chorion, and the epithelial cells covering the villi do not necessarily take part in the morbid process.

Priestley's investigation, undertaken as long ago as 1858, gave results in accord with Virchow's theory, which, as you will remember, was to the effect that the disease was cystic degeneration of the chorionic villi.

THE PATHOLOGICAL ANATOMY

The appearance of the vesicular mole is striking and peculiar. The mass may be as large as a man's head, covered more or less completely with a decidua, which, upon incision, or in spots where the decidual covering is absent, reveals innumerable small cysts, some as large as grapes and even as large as hen's eggs, connected one with the other or with the base of the chorion by pedicles of varying thickness. The liquid in the cysts is usually clear and translucent.

A microscopic examination of the section through a villus, in the early stages of cystic degeneration, shows the distended cells, or there may be seen the outer cellular and the inner fibrous wall of the villus, while within the interval are stellate connective-tissue cells, in the interstices between which may be found mucous tissue. The fluid contained in the cysts gives evidence, on chemical examination, of the presence of mucin and albumen in considerable quantities.

Within the center of the vesicular mass is usually to be found a shriveled or distorted fetus, surrounded by its amnion, which occasionally contains an abnormal quantity of fluid. Occasionally, however, no trace of the embryo is to be discovered, or, at most, there may be seen only the remnant of the umbilical cord. More rarely the fetus, although dead, is apparently well developed for the date of pregnancy, and if the

degeneration of the chorion has not been too extensive, a living, healthy infant may be born along with the vesicular chorion.

It has been already noted that between the amnion and chorion may be found a thin layer of jelly-like substance, continuous with the jelly of Wharton of the umbilical cord.

The relation of myxoma of the chorion to syncytial cancers is quite intimate. In a large proportion of the latter growths there is associated a cystic disease of the chorionic villi. The cases formerly reported of malignant degeneration of the chorion were unquestionably of this character.

There may be a metastasis of the whole chorionic villi without a malignant degeneration of the epithelial cells.

Stengal gives the pathology of hydatid moles after this manner: They present themselves as rounded, rather translucent bodies, hanging by their pedicles to the outer surface of the chorion and then attached one to another in clusters resembling a bunch of grapes. Microscopically they are found to be composed of myxomatous or more or less edematous fibrous tissue, containing few cells and free nuclei and covered in the outer surface by epithelial cells. Hydatid moles are especially met with in women suffering from chronic constitutional diseases, and in those becoming pregnant late in life.

Endometritis seems to bear some relation, though the disease is evidently one of the fetal rather than maternal tissues. This is shown by the limited extent of the disease in some cases, and from the fact that in twin pregnancy the membranes of only one fetus may be affected. When the disease is extensive death of the fetus usually results and the moles are discharged in the form above described or enclosed in clotted blood.

CLINICAL HISTORY AND DIAGNOSIS

There are three important symptoms associated with this condition: First, rapid increase of the size of the uterus; second, discharge of blood or bloody serum; third, escape of vesicles. The last symptom is of rare occurrence, and the first two do not always manifest themselves in a typical manner, so that the clinical phenomena do not always permit of the differential diagnosis. If, as rarely happens, characteristic cysts are expelled, there can be no doubt as to the nature of the case. Cases are rarely reported, except in women who have born a number of children, but cases are reported where this condition has repeated itself in the same patient.

The adhesion of the cystic villi to the uterine wall, is said, in some cases, to produce serious

results, because of the deeper penetration into the uterine wall, leaving a thin surface which is very liable to perforation. The maternal mortality is said to be 18 per cent.

ETIOLOGY AND FREQUENCY

The occurrence of this disease cannot be attributed to any single cause. The connection between disease of the endometrium or of the uterine walls and vesicular mole is clearly established in a large proportion of cases, especially in those where there is a frequent recurrence of the disease.

Stenosis of the umbilical vein has been found associated with cystic chorion, and therefore it has been asserted that the cystic degeneration may have been due to the dropsy of the chorion. As to the frequency of this affection there are no reliable statistics. Some claim one in twenty thousand cases, but Hearst thinks that one in two or three thousand cases would be a more true expression. Nearly every obstetrician of large practice has seen at least one, probably more.

There is no treatment to this condition except to combat symptoms as they may arise. Hemorrhage should be controlled, and, if necessary, supportive treatment to the mother. I have found it recommended that ergot should be continued for some days after delivery. The history of this case showed me nothing characteristic until the time of delivery.

HISTORY

The woman is 32 years of age and has six living children. She presented herself on February 25th, fearing a miscarriage. Pregnancy dated from about November 15th, nearly three and a half months. She had that day attended her mother's funeral, which naturally had affected her greatly. She was then having a severe hemorrhage. I used tampon pressure to control the hemorrhage, and put her in bed with absolute quiet. She flowed profusely for three or four days except when the tampon was in place. Kept her in bed ten days. She was then allowed to be up and about. She went to church and did housework, but on any overexertion hemorrhage would return. Meanwhile, she developed a heart lesion, which kept her in bed about ten days longer. She had frequent hemorrhage until June 2d, when she was delivered. Recovery was uneventful, except that the post-partum flow lasted for about two weeks. There was no history of malignancy in the family and no indications of any in the patient, and I have seen her repeatedly. I saw nothing in this case to lead me to suspect anything but a miscarriage, and did not discover the true condition until she was con-

fined. This patient had had a good deal of endometritis for some years and has a badly torn cervix.

I report this, merely as an interesting case, and in the hope that some one may have something to offer which will add to its interest. The obstetricians all say that there is a tendency to malignancy when this condition has been found. Personally, I know nothing of that as I have seen only two cases and three specimens. This specimen in its recent state is the largest I have ever seen.

The Journal of the American Medical Association of May 5th, has this to say on the malignancy of hydatid moles:

"Schickele discusses whether the uterus should be removed as a matter of course in case of a hydatidiform mole. He thinks that the danger of malignancy should always be borne in mind, and that after removal of the mole the uterus should be curetted and the scrapings examined. If a chorio-epithelioma exists outside of the uterus it should be removed, and the uterus should be curetted and palpated. If the findings are negative the examination should be repeated in four weeks, or in two if there is the slightest suspicion of positive findings. The presence of a chorio-epithelioma outside of the uterus should not influence the decision as to the removal of the uterus unless the findings suggest the probability of malignancy. He replies to the possible objection that the hysterectomy might come too late by saying that this could occur only in cases with very early metastasis, and in such cases the physician is powerless whether there is a neoplasm in the uterus or not."

BRACHIAL NEURALGIA AND ARM PAINS

Charles L. Dana gives first an anatomical description of the parts concerned. He declares that shoulder pains, if they extend up the supra-acromial nerves, mean involvement mainly of the circumflex; if they extend down, involvement of the radial; and if they extend back, involvement of the collateral muscular nerves going to the scapular region. According to the writer's experience neuralgias are met more often in the better classes than in dispensary or hospital patients. It is safe to say that arm pains are never purely rheumatic unless there exists some objective evidence of myositis, arthritis, or periarthrititis. In the diagnosis the most difficult factor is to distinguish between real neuritis of high grade and neuralgia. The writer emphasizes the necessity of rest in these cases.—Medical Record.

REFRACTIVE ERROR AS AN ETIOLOGICAL FACTOR IN HEADACHE*

By C. L. SHERMAN, M. D.

LUVERNE, MINN.

Headache is a very common affliction. No single source of pain compares to it in frequency. This is evidently because of its being a symptom of many diseases, or functional disturbances.

Refractive error is one of the chief etiological factors. It is estimated that eye-strain is the cause, or a contributing factor, in about 60 per cent of the cases of chronic headache. It may also arise from gastric disturbances, anemia, uremia, auto-infection, plethora, nervous breakdown, brain disease, and many other causes which to enumerate would take many pages. I shall confine myself to the consideration of cases caused by errors of refraction, and shall consider other causes only to the extent that they act as contributing factors in this class of cases.

The object of this paper will be to consider, first, to what extent is refractive error an etiological factor in headache? Second, how are we to differentiate this form of headache from headache caused by other conditions? Third, to what extent can we expect to relieve these cases by the use of proper glasses?

The general public have been erroneously taught to consider chronic headache the result of nothing else but weak and ametropic eyes. They have been induced to form this conclusion by those who have applied this branch of medical science as a remunerative field for quackery.

Often the first thing a patient suffering from chronic headache will do to secure relief after dopping himself with acentanilid preparations, will be to betake himself to a nearby jewelry store and invest fifty cents in a pair of spectacles selected according to his own judgment. Others will consult opticians who prescribe lenses without knowing anything about the physiology or pathology of the eye, or the patient's general condition. Occasionally some relief will be secured, but usually the condition will remain the same. Sometimes it will be made worse.

There are very few emmetropic eyes, that is, eyes with perfectly normal refraction. There are many with marked refractive error who never experience any discomfort. As they advance in years presbyopia develops. They consult a physician, and a marked error is discov-

ered, usually hypermetropia. Others may be well advanced in years when they suddenly become subject to chronic and persistent headache after an acute or chronic illness, without having subjected their eyes to any excessive strain. We therefore come to the conclusion that refractive error alone is not always sufficient to cause headache. It may be present in a marked degree without giving rise to any symptoms until the vitality of the individual is impoverished by other conditions, when it suddenly becomes manifest.

When a patient consults us and we have found and corrected the refractive error, we should not stop here, but should extend our investigation to the general condition, and endeavor to correct any systemic or constitutional derangement that may be found. Any one subject to headache should have his eyes examined, and if a refractive error is present he should be supplied with the proper lens. But we must also remember that refractive error may be only a contributing factor in the etiology of a persistent headache, or that the headache may be produced by an entirely different cause.

Headache caused by error of refraction and nothing else usually has quite a characteristic symptomatology. There is usually a blurring of vision after close application of the eyes, with pain through the eyeballs and temples extending over the lower portion of the forehead. Often the pain is absent in the morning, and gradually develops during the afternoon and evening. Sometimes the pain is referred to the occipital region. In children and young people we frequently find blepharitis or a mild conjunctivitis. Often the eyes are congested after application to near work. These are some of the most common symptoms characteristic of an ocular headache.

To illustrate how both refractive error and other derangements must be corrected in order to secure relief, I will relate the following case:

A woman, aged 28 years, had suffered several years with persistent headache, was also subject to dyspepsia and constipation, was emaciated and nervous. She consulted her family physician who relieved her general condition by tonics and laxatives. Her headache persisted, and some-

*Read before the Southern Minnesota Medical Association. August 17, 1906.

what later she consulted a specialist who prescribed + 1.25 D, sphs. Meantime she had discontinued her general treatment, and the gastric symptoms had returned. She wore her glasses constantly for several months without securing any relief. She then discarded them. I was consulted about six months later, and found her refraction to be + 1.25 D, sph. I had her continue wearing her old lenses, and also prescribed for her dyspepsia, constipation, and nervous symptoms, and advised proper diet and regular habits. Her headache was completely relieved, her general condition improved, and she has had no trouble since.

CASE 2.—Girl, aged 18 years, attending school, complained of severe headache, and pain in eyes when reading or doing close work. Found + 1. D. hypermetropic astigmatism in right eye, and + 1. D. hypermetropic astigmatism with + 1. D. hypermetropia in left eye. I supplied her with proper lenses, and assured her that her headache would be relieved. She returned in a few weeks to inform me that her eyes did not tire quite so much and that she could see much better, but her headache was about the same. By examining her further I observed that she was quite anemic, and I also learned that she was considerably troubled with constipation. I had her continue wearing her glasses, and prescribed Bland's pill comp., one after each meal, and a teaspoonful of cascara evacuant at bedtime. She improved rapidly and in a short time was completely relieved. My observations have convinced me that anemia is very prone to aggravate an ocular headache, and must be attended to, as well as the refractive error, in order to secure relief.

CASE 3.—A woman, aged 28 years, said she had always been well with the exception of a little rheumatism several years ago. About eight weeks previous to the time I saw her she began to be troubled with headache which gradually grew worse. She consulted an optician, who prescribed + 2 D. sph. lens for both eyes, and assured her she would be relieved. She continued to grow worse. I was consulted about three weeks later, and found her refractive error to be properly corrected, but after a careful examination I elicited what I believed to be a syphilitic history. My diagnosis was syphilitic hemicrania. I put her on potass. iodide and proto-iodide of mercury, and her headache rapidly disappeared. The last time I saw her she was perfectly well as far as her headache was concerned, and was not wearing the glasses. In this case, although there was a marked refractive error, the syphilis was the cause of the headache and not the refractive error.

After a careful study of the subject I believe

we are justified in drawing the following conclusions:

1. To differentiate ocular headache from other forms of headache, we must carefully study the patient's general condition.

2. We can expect to relieve these cases successfully only to the extent that we succeed in determining any contributing cause that may be present.

3. Eye-strain is, in a large percentage of headaches, not the only cause, but one of the contributing factors, and to secure the best results it is necessary to correct the refractive error, and also any general derangement that may be present.

A CASE OF SUBMUCOUS NASAL SEPTUM RESECTION

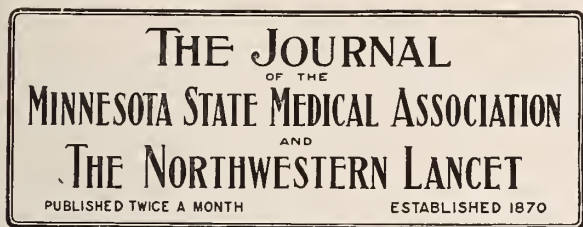
BY ROBERT A. CAMPBELL, M. D.,
MINNEAPOLIS

I would like to report a submucous nasal septum resection that is unique in my experience.

Mr. J. T., Pine City, Minn., aged 23, when 7 years old fell, striking his nose on a sharp projection, and afterwards had nasal obstruction to breathing. He says he became the subject of chronic bronchitis at the age of 19, and was sent in Chicago for an operation upon his deflected septum. There the Roe forceps was used to fracture the cartilage, and the septum was reset. Splints were worn for a number of weeks, and the patient went home. He found the results of the operation unsatisfactory, the breathing being unimproved. Six months later he returned to Chicago and underwent a second Roe operation, and this also proved unsatisfactory, although he had some increase in the amount of breathing space in his nose, and his bronchitis improved.

On January 10th of this year I did a submucous resection after the method of Killian. I found very much less difficulty in separating the muco-perichondrium over the previously operated area than I had anticipated, and succeeded on both sides without a tear in muco-perichondrium. On removing those portions of the triangular cartilage, perpendicular plate of the ethmoid, and vomer that were deflected there was left a straight median septum of mucoperichondrium and periosteum between the layers of which will be deposited cartilage and bone during the next few months. At this date the healing of the single incision is complete, and he is going home breathing freely through both sides of his nose.

The case is unique in that the submucous resection was not nearly so difficult as might be anticipated after two previous unsuccessful fracturing operations had been performed.



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LEGISLATIVE BILLS

The bill providing for the establishment of a University hospital and the acceptance of the Elliott bequest has passed the house and the senate, and thus the hospital becomes an assured addition to the medical department. The alumni have long favored and hoped for this move. It means better teaching facilities, a saving of time, and the ultimate building up of a large hospital. It means much to the sick poor throughout the state, and a saving of money in the various counties, which are now obliged to care for their sick poor at an unnecessary cost.

The situation was very carefully canvassed by letters sent to every county auditor asking for information, and for an opinion as to the advisability of such a movement. The majority were in favor of the establishment of a state hospital and gave their hearty approval. Some unscrupulous interlopers had the audacity to reproduce the letters sent out by the committee of the alumni, with a few black-faced questions in which they attempted to block the plan by suggesting impertinent motives. Although the reproduced letters were addressed

to the auditors they were sent broadcast to physicians in which their opinions were asked as to whether it would interfere with their business, what effect it would have upon their standing in the community, and suggesting that the whole plan was laid by a Minneapolis hospital trust! These letters were forgeries, and the man or men who sent them out were no better than forgers. It was a bold, scurrilous, and meddlesome piece of poor business. Fortunately, the physicians were wise enough to detect the fraud, and no great harm resulted. An effort is being made to locate the originators of the forged letter, and it is needless to say that the information will be used where it will do the most good.

The second bill, locating the hospital for crippled and deformed children on the grounds of the City and County Hospital in St. Paul passed in the legislature, and was amended so that it will be under the direction of the State Board of Control, and not, as heretofore, under the Board of Regents of the University. This takes it away from the University hospital, and thus makes it possible to build a special pavilion for such cases near the University campus.

Bills relating to the needs of the State Board of Health have been introduced asking for larger appropriations to carry on the work of suppressing communicable diseases, the establishment and maintenance of a Pasteur institute, a special appropriation for vital statistics in order that Minnesota may be in line with other states, and a fund for the engineering department.

All of these bills call for money. No needless or useless expenditures are contemplated. The State Board of Health has been run on the closest possible margin, and a great deal of necessary work has been left undone because the legislature has not appreciated the necessity of preventing diseases and preserving the health of the state at large. We are so far behind other states that Minnesota appears at a ridiculous disadvantage. The cities of Minneapolis and St. Paul spend more money, many times over, than is given for the maintenance of the public health in the rest of the state. Surely, the people outside of the Twin Cities should be protected, and the state can afford to be generous to its rapidly increasing population.

MAL-PRACTICE SUIT

Dr. A. F. Schmidt, of Mankato, and Dr. Peter F. Holm, of Wells, Minn., were defend-

ants in a mal-practice suit brought by Lawrence Stoloch as administrator of the estate of John Stoloch (his son), for \$5,000. The action was tried in Blue Earth County before Judge Quinn and a jury. A verdict of \$1,000 was returned for the plaintiff. The case was carried to the supreme court, and promptly reversed, with a directed verdict for the defendants.

The surgeons amputated a crushed, bruised, and torn leg, the tibia of which had suffered an oblique, compound, comminuted fracture. The operation was performed shortly after the injury, which was caused by the teeth on a revolving cylinder of a threshing separator into which the patient had fallen. Death ensued after the operation. No negligence was shown against the doctors, and the plaintiff made no objection and took no exception to the operation.

The supreme court says:

The negligence of a surgeon in determining to perform a primary operation during a condition of shock is to be determined by reference to pertinent facts then in existence which were known or which ought to have been known in the exercise of due care and not by reference to knowledge acquired after the operation has been performed.

To the ordinary rule that the exercise of defendant's best judgment is no defense in an action for damages caused by his negligence, a general exception is recognized with respect to cases involving matters of opinion and judgment only. *Vaughn vs. Menlove*, 3 Bing. (N. S.), 363, distinguished.

A physician entitled to practice his profession, possessing the requisite qualifications and applying his skill and judgment with due care, is not ordinarily liable for damage consequent upon an honest mistake or an error of judgment in making a diagnosis, in prescribing treatment, or in determining upon an operation, where there is reasonable doubt as to the nature of the physical conditions involved, or as to what should have been done in accordance with recognized authority and good current practice.

The exception in mal-practice cases applies to the formation of the judgment by such physician. It may not extend to the previous acquisition of data essential to a proper conclusion or to consequent conduct in the subsequent selection and use of instrumentalities with which he may execute that judgment.

The reasons for this exception are to be found in the character of the emergencies physicians meet which often preclude deliberation; in the nature of their undertaking, which contracts for individual judgment and skill; in the peculiarity of the human constitution, which presents difficulties not arising from insensate matter; in the nature of medical science, which is based on progressing knowledge; and in the inherent uncertainty of the expert testimony involved, which itself is the expression of opinion often in such cases founded on doubtful observation.

The fact that a patient dies immediately after an operation is not of itself evidence of negligence on the part of the operating surgeon.

Here is another instance where an effort was made to squeeze money from men who were conscientiously trying to save life and to perform their duty as physicians.

Every surgeon is constantly facing the peril of mal-practice suits. If he operates and the patient dies, or, if he does not operate and the patient dies, he is blamed for not doing his duty.

To be on the safe side it is usually wise to have a written agreement with the patient or his legal guardian, and, in order to make his burden less heavy, it is equally wise to protect himself by insurance covering these points.

Insurance saves suits and money and lessens the after-worries of an unforeseen outcome. The physician never knows when some one may rise up against him, even when he is exercising care, skill, and judgment.

Fortunately, the law protects the physician from unjust verdicts, but it cannot save him from annoyance and expense. Drs. Schmidt and Holm are to be congratulated on their victory.

NURSES' REGISTRATION BILL

A protest, headed by J. Cheston Morris, M. D., of Philadelphia, has been scattered broadcast through the country, against state law for the "Registration of Nurses." It appears in the form of a folder and contains the names of 72 medical men who are also protesting. The argument in part is as follows:

"State's law for the registration of nurses is not only unnecessary, but, as the experiences of New York and New Jersey show, is positively harmful. The tendency of such law is to lead the average nurse to assume too much, and not only lessen her usefulness as a nurse but jeopardize the life of the patient.

"Instead of such law being, as is claimed by its advocates, a protection to the community, it becomes a positive menace to the public good. Physicians know that as a general rule hospital trained nurses claim too much. They are often overbearing and dictatorial, and require too much attention and waiting upon. Now, to pass laws to confer special marks of distinction upon them is to accentuate these qualities and render their presence in the sick room a positive danger.

"The nurses in asking for these laws are working against their own best interests, for if the laws are enacted it will only be a little while before doctors will refuse to employ such nurses and will turn to those of less pretensions but of greater usefulness.

"The spirit of trade and the feverish desire to maintain prices under cover of 'protecting the public' cannot be concealed in this wild scramble for state law and recognition."

Evidently, this "protest" has been sent to the country papers in Minnesota, and not a few have printed the protest and have upheld the argument. The Republican Herald, of Winona of March 5th, and the Herald of Waseca, of March 8th, are with the protestors.

Why all this fuss? Why do these papers assume a professional-nurse combine? Why do they deliberately state that no one but a registered nurse will be able to take care of the sick?

There is nothing in the Minnesota bill that prevents any family or physician from employing any kind of a nurse they may choose. It would be an impossibility for the registered nurses to occupy the entire field, and it would be a financial impossibility for every family to employ a registered nurse. It seems rather strange that so much effort should be made from the outside sources to defeat a Minnesota bill. There must be some covered motives other than a simple protest against the profession of nurses gaining a registrative recognition.

The whole thing will adjust itself, even if bills are successfully passed in all states and a national organization is effected. If the nurses want legal recognition, let them have it. It will please them and gratify them just as other great organizations are pleased over their accomplishments. It is impossible to get all of the doctors into one organization, just as it is impossible to get all labor unions to unite. When there are too many, an explosion occurs, and clarifies the union atmosphere, and each division goes on its way rejoicing and each thinks his section, union, or organization is the best. The same amalgamation, dissolution, or disintegration takes place in religious bodies.

After all, the public look on with smiling faces and do as they please toward their ministers, doctors, or—nurses. It is the individual with a personality, an integrity, a force, a will- ingness, and an earnest, honest purpose who survives. The profession that attempts to usurp the function of another profession is a failure. They soon find their limitations, and if untrustworthy they go to the wall. The process of elimination is always hard at work.

ST. PETER STATE HOSPITAL INVESTIGATION

The legislative investigation of the St. Peter State Hospital for the Insane has been concluded, and the committee have returned to St. Paul. The outcome was what might have

been expected. The executive officers of the Hospital were exonerated from all blame relative to the alleged injuries received by patients from the nurses. It is strange how readily the public will believe stories of cruelty to the sick, sane or insane, rather than believe that the sick are cared for in the best possible manner, and that it is a matter of pride with everyone connected with a hospital to do his full duty under all circumstances. The care of the insane is particularly trying. It requires constant vigilance, a fund of patience that is practically inexhaustible, gentleness, with tact and firmness, and enthusiasm in a task that cannot be compensated by money. It is nearly impossible to find persons who are endowed with all the necessary qualifications that go to make a thoroughly good nurse. It is probable that there are times when irritability will crop out, and confusion ensue even under the best of environment.

If an excitable, maniacal, or vicious patient is placed in a ward with others, it is fair to presume that the excitement will be contagious, and the nurse who can successfully manage one or more patients without danger to himself or others is exceedingly skillful. Accidents or injuries may, and will, occur, and it is absolutely impossible to prevent them. When an irresponsible and dangerous insane man requires restraint and is bruised by his own restlessness, a magnified report of his injuries is sent broadcast, and is joyfully accepted by sensational newspapers. When a nurse is overpowered, beaten, and disfigured for life in the discharge of his duty, the same newspaper will ignore the item, or distort it and cast the blame upon the nurse.

The majority of complaints that come from our state institutions emanate from the irresponsible insane or from employees who have been discharged for incompetence. When such complaints, or rumors of them come to the superintendent a careful inquiry is always made by him, and the facts are accessible to the public, but it is almost impossible to prevent their distortion when they are retold by the press or by ignorant or dissatisfied relatives. No report of injuries to the patient by himself or his caretakers before his commitment to the hospital, is accepted as satisfactory. The hospital authorities are usually blamed regardless of the truth of the complaint.

The people who care for their unfortunate insane repress needed information, and frequently attempt to criticize the care of the patient when it is known that hospital treatment is far better than home care.

For many years it has been the custom in our hospitals for the insane to carefully examine committed cases immediately upon their arrival in the hospital. Careful notes are made of all suspicious marks or bruises, and a full report sent to the judges of probate and to the friends of the patient. In spite of this precaution and attention to details, the notes are frequently denounced as untrustworthy and misleading and the hospital suffers from unjust fault-finding, and a general misunderstanding is the result.

The present investigating committee recognized the justice of the hospital side of the question, and realized the urgency of an increase of the nursing force, and it recommended a substantial increase in the pay of the nurses. This recommendation is exceedingly timely, and it is to be hoped the legislature will see the necessity of an increased appropriation to meet this demand.

Our state hospitals for the insane need more funds to properly provide for the sick under their care. Minnesota should not attempt to take care of her insane on the lowest possible margin, but should unhesitatingly extend its generosity so that all of her wards can be treated in a manner equal to their needs.

CORRESPONDENCE

THE GALBRAITH TREATMENT FOR PNEUMONIA

Detroit, Minn., March 15, 1907.

TO THE EDITOR:

I was recently appointed county physician, and while on the White Earth reservation on a charity case, was requested by the Indian agent to handle the Reservation work until a government physician arrived. Several cases of lobar pneumonia manifested themselves at once, and I determined to give a test to Galbraith's treatment.

It would take too much time and space to detail each case separately, but after my experience with five pronounced cases I am enthusiastic in my approval of the treatment, and am almost ready to consider it a specific. For the initial dose I never gave less than fifty grains of the quinine sulphate, given in capsule form. This was followed in six hours with ten and fifteen grain doses at two hour intervals for three doses, and also ten to fifteen minim doses of the ferric chloride every three to four hours.

In one case the temperature was 104.6°, and

the pulse 120 at four p. m., with complete consolidation of the right lung. I gave seventy grains for the initial dose. At ten the next morning the temperature was 99°, and the pulse 90. Both temperature and pulse rose in the afternoon, and I repeated the treatment, but with a smaller dose, obtaining the same result. They rose again next day. I gave a still smaller dose, and that ended the battle. The young man from then on made an uneventful recovery.

Under the circumstances I feel that it is proper to urge the profession to try the Galbraith treatment.

I will add that one patient lost his sight, but only for twelve hours.

GEORGE W. FRAZIER, M. D.

REPORTS OF SOCIETIES

CENTRAL MINNESOTA SOCIETY

The regular quarterly meeting of this Society was held at Milaca, March 13th, with Dr. H. P. Bacon, of Milaca, in the chair.

There were no special papers, but various phases of professional interest were under discussion, and medical topics were assigned for the next meeting.

Dr. H. C. Cooney, of Princeton, who had been appointed by the President to draft suitable and appropriate resolutions relative to the death of Dr. Jacob F. Whiting, of Spencer Brook, submitted the following report.

Whereas, A strong man has fallen in the van of battle; and

Whereas, His comrades realizing as yet very imperfectly the measure of their misfortune, yet, in recognition of his sterling qualities as a man and a physician, do herewith desire to give outward expression of the sorrow which his death has occasioned, and

Whereas, It is unanimously felt that the Minnesota Central Society and its members have sustained a grievous blow in the loss of Dr. Jacob F. Whiting, who was an energetic and progressive physician and a man whom to know was to admire and honor for his nobility of character; therefore,

Be it Resolved, That in appreciation of his noble life and as a mark of sorrow for his untimely death, this inadequate expression of esteem and affection be spread upon the minutes of this Society, and as a token of sympathy a copy of the same to be transmitted to the bereaved family.

On motion of Dr. A. J. Lewis the resolution was unanimously adopted.

The next meeting will be held at Princeton, Wednesday, July 17, 1907, from 11 a. m. to 4 p. m.

A. J. LEWIS, M. D., Secretary-Treasurer.

NEWS ITEMS

HENNEPIN COUNTY SOCIETY

A mid-monthly meeting of the Hennepin County Society was held on March 18th. The president, Dr. J. E. Moore, in the chair, and twenty-five members present. The president announced a proposition from Mr. L. S. Donaldson to the effect that he was willing to furnish a room for the medical library and a meeting-place for the Society for a term of years free of charge, in his new building, at corner of Nicollet avenue and Seventh street.

Dr. W. D. Shelden presented a specimen from a case of aneurism of the aorta (in the transverse portion of the arch), death being due to pressure of the aneurism on trachea, causing almost complete obstruction.

The scientific program being in order, Dr. H. A. Bouman read a paper on "Passive Congestive Hyperemia after Prof. Biers." The paper was discussed by Drs. Schwyzer, Staples, and Knight, Little, Read, and Moore. The discussion was closed by Dr. Bauman.

Dr. L. A. Nippert read a paper on "Diagnosis of Diseases of the Thorax, Presenting Symptoms of Affections of the Abdominal and Pelvic Organs." The discussion was opened by Dr. Moore, followed by Drs. Sweetser, Staples, Rutledge, and Condit.

The Executive Committee recommended that the bill (H. F. No. 346) be opposed by the Society (this is the bill to establish detention hospitals at the state institutions for the insane).

The president appointed the following committee to act with committees from the Academy of Medicine and the Ramsey County Society in opposition to the above measure: Dr. J. F. Corbett, chairman, Drs. H. B. Sweetser and R. E. Farr.

It was announced by the president that Dr. G. Frank Lydston, of Chicago, had been secured to give the address at the annual banquet, which will be held Monday, April 15th, 1907, at the West Hotel.

C. H. BRADLEY, M. D., Secretary.

Dr. N. C. Davis, of Slayton, has moved to Badger.

Dr. Claude Okey has begun practice at Hudson, S. D.

Dr. T. J. Catlin has moved from Delano to Waukenabo.

Dr. C. D. Kolset, formerly of Wendell, has located in Belgrade.

Dr. P. M. Walker, of Grafton, N. D., has moved to Everett, Wash.

Dr. F. M. Archibald has moved from Thief River Falls to Breckenridge.

Dr. H. D. Edmonds, of Williston, N. D., has moved to Milk River, Montana.

Drs. F. J. King and W. M. Brown, of St. Thomas, N. D., have formed a partnership.

Dr. D. F. Dumas, a recent graduate of Hamline, has moved from Foley to Cass Lake.

Dr. D. E. Stewart, of Winona, who was recently operated upon for gall-stones, is doing well.

Dr. R. J. Phelan has moved from Belle Plaine to Minneapolis. His office is at 400 Central avenue.

Dr. M. MacGregor, of Fessenden, N. D., has returned from Chicago, where he has been doing post-graduate work.

Dr. C. B. Lewis, of St. Cloud, was married last month to Miss Rosalie W. Freeman, of Chicago, a professional nurse.

Dr. F. L. Wilcox has bought the Walker Hospital, of Walker, and will make extensive improvements in the building.

Dr. Victor Rosseau, of Annandale, has moved to Maple Lake, and will take the practice of Dr. Bissell, who expects to go abroad.

Dr. Harry Morell, of Litchfield, will soon move to Winnipeg. He has an interest in the Western Canadian Medical Journal.

Drs. Claybaugh and Bardwell, of Rolette, N. D., have planned to erect a new hospital building this spring to cost about \$5,000.

There is a bill before the legislature of Iowa prohibiting physicians (so-called) from soliciting business by agents or circulars.

Dr. C. P. Robbins, of Winona, has returned from an eight months' trip abroad, studying internal medicine in Vienna and Berlin.

Dr. D. N. Jones, of Gaylor, has been in Chicago some weeks doing special work in surgery and diseases of women.

The county commissioners at Aberdeen, S. D., will open bids on the 18th inst. for an addition, 30x45 feet, to the county hospital.

Dr. D. E. Rogers, who formerly practiced in Portland, N. D., has returned to that place. He has spent much time in the hospitals of the East.

Bethesda Hospital, of St. Paul, has received a gift of \$5,000 from Mr. James J. Hill, and will solicit other funds with which to enlarge its building.

A public-spirited citizen of Long Prairie, Mr. W. W. Powell, has offered to donate a building, now used as an opera-house, for hospital purposes.

Miss Josephine Nelson, a graduate nurse of Minneapolis, was offered the position of head nurse in the new hospital at Litchfield, but declined the offer.

Dr. A. E. Hensel, of Alexandria, has decided to close his hospital. Dr. Boyd will change the name of his hospital, and it will hereafter be known as St. Luke's.

The Winona General Hospital has received a donation of \$5,000 from Mr. A. B. Youmans, of that city. This makes the hospital's endowment \$55,000. Donations seem to be contagious—at least in Winona.

Dr. Joseph H. Sweeney, of Lehr, N. D., died on Feb. 8th, at the age of 36, of pneumonia. Dr. Sweeney was a graduate of Jefferson Medical College, class of '94.

Dr. Arthur Kahala has given up his practice at Erskine, and will locate in Idaho, probably in Sand Point, and become a partner of Dr. McKinnon, formerly of Fosston.

Dr. Ferdinand Hilbert, of Albany, died last month, at the age of 45. Dr. Hilbert graduated at the State University in '92. He was a brother of Dr. P. A. Hilbert, of Melrose.

The physicians and surgeons of Duluth recently appeared before the district judges of St. Louis county asking that reasonable fees be allowed expert witnesses called by the State. The matter was taken under advisement.

The Northwestern Hospital of Minneapolis will spend \$32,000 in the completion of the wing added last fall. The addition will contain wards, private rooms, and operating-rooms. Messrs. Bertrand and Chamberlain are the architects.

Dr. Charles H. Jones, who graduated from the State University in the class of '90, died on March 7th at Tempe, Arizona. Dr. Jones had become prominent in the medical circle of that state, and was highly respected as a citizen in Tempe.

Dr. G. A. Renz is the new health commissioner in St. Paul succeeding Dr. Ohage, who made a national reputation while in office. Dr. Renz was Dr. Ohage's assistant, and was his first choice for the office. The salary is \$3,000 a year. Dr. J. M. Armstrong becomes first assistant to Dr. Renz.

Dr. C. P. Robbins of Winona, has won a suit in the supreme court which enables a physician to recover fees from a county for emergency services rendered a pauper. The case went to the supreme court twice, and was an expensive affair for Dr. Robbins, but he established a valuable point in both law and medical practice.

The Hennepin County Medical Society holds its annual meeting Monday evening, April 15th, Dr. Frank Lydstrom, of Chicago, will be the speaker. His subject is, "Practical Points in the Surgery of the Prostate and Plastic Surgery of the Urethra." The meeting will be held at the West Hotel at 8 p. m. Tickets for the banquet are \$2.00. Outside physicians are cordially invited. All expecting to attend should notify the secretary, Dr. C. H. Bradley, Masonic Temple, Minneapolis.

FOR SALE

A 16-inch Western X-Ray Coil and double-resonator high-frequency apparatus. As good as new. For sale at a bargain. Address Dr. B., care this paper.

FOR SALE

A practice of \$3,000 a year, in a city of 2,500 inhabitants in Southern Minnesota, will be turned over to the purchaser of my residence at \$500 less than the residence cost. \$500 cash will handle the deal. Address S., care of this journal.

WANTED

A regular medical practitioner to rent or manage a private hospital in a favorable, healthful, elevated location near Twin Cities and lakes. For particulars, address Favorable Prospect, care of this journal.

POST-GRADUATE WORK

Doctor: If you want practical post-graduate work during the fine season in the delightful city, write for particulars, to New Orleans Polyclinic, post-graduate department of Tulane Medical College, P. O. Box 797.

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CARDIOVASCULAR REGULATION DURING AND AFTER OPERATION*

HENRY WIREMAN COOK, M. D.

MINNEAPOLIS

A series of observations extending over four years in abnormal cardiovascular cases, with special view to the added light that accurate estimations of blood-pressure throw on the results of previous methods of examination, has apparently developed some important medical questions, detailed and published elsewhere. But, in addition, another part of the work—perhaps more than half—being occupied with surgical cases, has seemed to bring out even more important possibilities. These observations were conducted in the general surgical, gynecological and obstetrical wards of the Johns Hopkins Hospital, Baltimore, and in the Memorial Hospital, Richmond; and embrace observations before and during operation and throughout convalescence varying through a variety of cases, those presenting some unusual or serious feature engaging special attention.

I particularly wish to express my gratitude to Dr. George Ben Johnston, Richmond, Va., for the privilege of observing his cases.

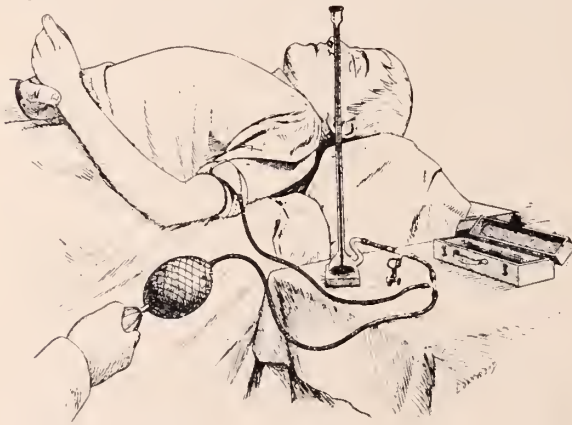
Obviously the preservation and proper regulation of the cardiovascular system is of pre-eminent importance in the successful conduct of any surgical case of more than the most

trivial nature, and, most fortunately, it now lends itself to the closest scrutiny of any system, and presents the fullest possibilities of accurate distinctions.

An estimation of renal capability must be of the vaguest nature, and post-operative suppression gives no good warning, nor can we foresee the lack of intestinal tone which may determine a post-operative ileus or the presence of such gastric irritability as may induce fatal vomiting. The cardiovascular system, the most important, is, fortunately, the most accessible. An educated touch for arterial changes; percussion skill to outline cardiac dullness; the pulse-rate and quality, but, above all, the accurate estimation of pulse-strength, furnish data which, when properly correlated and interpreted, both by correct premises and the experience of repeated observation, have a value which should hardly be put of second importance to a correct diagnosis of the local surgical condition. Of little value to the patient, however scientifically satisfactory, is a correct differential diagnosis between myoma and carcinoma of the fundus, if the cardiac strength or vascular strain has been mistaken or slighted, and the patient dies of acute cardiac dilatation on the table or during the first few days after the operation.

*Read before the Minnesota State Medical Association June 19-21, 1906.

In attempting to present this question I shall give, briefly, some of the actual observed conditions, and draw conclusions afterwards. These deductions are not built on the occasional observation which, in those hospitals where blood-pressure records are taken at all, may be made every twenty-four hours, or before and after operation; but in these cases the observations were made at frequent intervals and continuously, and always by the same person, my friend, Dr. Briggs, who worked with me at the Johns Hopkins Hospital. As we were accustomed to observing cases alternately, and found our observations constantly agreeing the error of personal equation was minimum. Usually during operation the pressures would be made every two and a half minutes, and continued as frequently sometimes forty-eight hours after the operation. In some cases when rapid variation was noted one-half minute observations were recorded. The observations were always charted as originally recommended by Cushing, so that the variations were most graphic. The blood-pressure observations were always correlated in any deductions with the other vascular and general symptoms, particularly the area of cardiac dullness, quality and rate of pulse, character of arterial wall, facial aspect, and subjective symptoms. In the earlier cases the narrow (5 cm.) band originally made with my instrument was used; in the later cases the wide arm-piece, now supplied by Eimer and Amend, of New York, with the same instrument. The narrow arm-piece gave too high absolute readings, but the degrees of variation were quite comparable.



Modified Riva Rocci Sphygmomanometer.

I continue to use my modified Riva Rocci, made in portable form for greater convenience in general practice. The same instrument in continuous use for three years remains perfectly satisfactory.

The cases showing abnormal blood-pressure

naturally divide themselves into two main groups: 1st, those with an increase in tension, and, 2d, those with a low tension.

Besides these, there is a third miscellaneous group of abnormal cardiovascular cases with normal blood-pressure representing in general the moderate grades of failing compensation. For instance, a well compensated valvular insufficiency of arteriosclerosis may show a systolic pressure of 180 mm., Hg., but as the heart begins to fail the tension falls and may be found normal at some point along the progressive downward course. This condition necessarily must be recognized by other signs than the absolute blood-pressure, and should be suspected when without a murmur, or hypertension the heart outline is enlarged, showing weakening and stretching of the muscle, or the general condition and appearance indicate failing strength, especially if the arterial wall shows thickening and bending, such as might have been produced by a pre-existing, chronic hypertension, or if the pulse is irregular in force or rhythm, or is accelerated. Such cases demand especial care to minimize the strain on an already failing heart, yet as they usually show no murmur and often no irregularity of pulse, and have a clear urine (though albumen might have been found some time previously during the initial period of hypertension), they go to operation unguardedly.

In general, the tendencies of the high and low tension cases correspond to the similar cases in medical conditions. The high tension cases stand the added strain of ether anesthesia and operative manipulation poorly, and tend to suffer cardiac dilatation, excessive hemorrhage, vessel rupture, or renal affections; while, if they survive the immediate effects of the operation, the convalescence is ordinarily favorable. Where, however, high tension persists after operation, it should be watched closely for some weeks, and treatment instituted towards lessening the strain on heart and blood-vessels. This would give us the necessary clue to those unfortunate cases which apparently recover promptly from operations only to suffer from acute cardiac dilatation and sudden death or cerebral rupture from a few days to several months afterward.

The low-tension cases, conversely, in general stand the operation well if chloroform be not used, or hemorrhage not excessive, nor peripheral irritation extreme, yet, as has also been found from a medical point of view by the incidence of tubercular tendency in low-tension individuals, these cases show a lowered resistance to infectious disease and are liable to pneumonia or local infection.

The general rationale of prophylactic and corrective treatment in these cases follows, naturally, after their recognition, from an application of such measures as tend to counteract the existing condition and the avoidance of those procedures that would exaggerate it. Thus, when abnormal hypertension exists prior to operation, a preliminary reduction of the tension should be accomplished, which reduction should be maintained at least through the first part of the operation and throughout when hemorrhage cannot be easily controlled, as the tendency to hemorrhage is, of course (coagulation time being constant), in direct proportion to blood-pressure. This reduction in tension can be easily and equably accomplished by the exhibition of sodium nitrite, the vasodilator, which, in my experience, has proven preferable.

Sodium nitrite is usually dispensed only as crystals or in solution. Three to five drops of a saturated solution is usually a satisfactory initial dose. Both Mulford and Wyeth Bros. have made for me, and now have for general distribution, some tablets of $\frac{1}{2}$ gr. and 1 gr. which have proven more satisfactory than the solution. They seem very stable, as I am now using some a year old which have unimpaired effect in lowering tension. They may be used hypodermically or by mouth. One tablet should be given 15 minutes before operation and repeated when necessary. Throughout operation these cases need careful watching, and the Trendelenberg position should be assumed only when absolutely necessary, and then moderately, the hypertensial tendency of asphyxia being avoided as much as possible by a free supply of air or even oxygen with the anesthetic, and care taken not to further embarrass the overtaxed heart in an abdominal operation by stuffing more gauze than is absolutely necessary under the diaphragm. If the pulse, which is usually slow in these cases, becomes much accelerated without a corresponding increase in tension, an attempt should be made, if possible, to see if the heart is dilating.

I have records of ten cases of acute dilatation in hypertension cases, five of which died either on the table or within the next forty-eight hours. In one of the three cases that lived the heart at a tension of 180 dilated in three-quarters of an hour, and the pulse jumped to 160, and the operation for carcinoma of the cervix was abandoned. This woman was hurried from the table with a clinical diagnosis of shock, yet the pulse-tension was still 180, and the heart waving a wide impulse outside of the nipple line. Although the woman ultimately died of the growth, the vasomotor

condition at operation precluded possibility of cure. Nitrite would have probably corrected this sufficiently to have permitted completing the operation. The hemorrhage also in this case was almost uncontrollable and would certainly have been bettered by a reduction in tension. The others were similar though varying in details.

A case with arteriosclerosis and an ante-operative blood-pressure of 190 left the table after a Gasserian operation had been abandoned on account of the uncontrollable hemorrhage with a hemiplegia on the same side at the opening in the skull, showing it was not from direct injury.

In these hypertension cases chloroform is not indicated, as has often been urged for arteriosclerosis, for, although chloroform does lower blood-pressure, the same effect can be produced by the vasodilators without the marked inhibitory and toxic action of chloroform. Their convalescence, as mentioned above, is usually uneventful unless a rapid return of very high tension induces cardiac dilatation or secondary hemorrhage, the latter being especially dangerous if internal, and of this consecutive blood-pressure observations afford the best indication.

Low tension cases in general stand operation well with proper precautions for the avoidance of shock and undue hemorrhage, and to the surprise of anesthetists they often leave the table with an improved pulse. This, in view of the hypertensial tendencies of operation and anesthesia, as just reviewed, is easily understood. Their low resistance, either dependent on the low tension or merely associated with it, may and should be corrected after operation by active stimulation to prevent the susceptibility to infection.

These low-tension cases seem to lack resistance to infection; and pneumonia, local abscess, thrombi, etc., seem to occur more frequently among them. Strychnine, in repeated tonic doses, about 1-40 gr. for adults, is apparently most beneficial. The preliminary purging and fasting should be less stringent, and nourishing food should be encouraged as soon after operation as the gastric condition will permit.

That blood-pressure observations afford the earliest and surest indication of oncoming shock or excessive hemorrhage during operation can, I think, be no longer disputed. As consecutive blood-pressure observations during operations in serious or lengthy cases come into more general use, fewer cases of profound shock will develop under surgical manipulation. Pulse-rate alone gives tardy and uncertain warning; and lessening tendency

to hemorrhage, shallow respiration, and pallor are even more uncertain guides. A blood-pressure chart gives an accurate and graphic picture of vascular tone, and its value cannot be too greatly emphasized.

The few hours immediately following operation are fraught with many possibilities of dangerous turns, and are often the most anxious ones. A study of the post-operative complications, in which the cardiovascular system plays the most important part, with the additional light of accurate knowledge of consecutive changes in pulse-tension, affords a basis for classifying them into divisions which may materially aid their individual recognition. Usually the single symptom that is depended on to give warning or knowledge of a change in cardiovascular condition is pulse-rate, and a rise in rate or a rapid pulse is taken roughly to gauge the danger. Therefore, as detailed elsewhere, but yet unpublished, the divisions of tachycardia comprehend the majority of post-operative cardiovascular complications, and with the detailed association of other signs and symptoms may be briefly indicated as follows:

Hemorrhage.—If hemorrhage is acute, the pulse-rate does not usually rise to any marked degree until the loss of blood is excessive. It is not unusual to find a severe hemorrhage which has lowered the tension 75 per cent in an hour, without raising the rate above 80. In slow hemorrhage extending over some days, as in some ruptured extrauterine, the rapid pulse does not seem so much an indication of loss of blood-volume as of cardiac weakness from the impoverished, diluted blood; so that in a slow hemorrhage the hemoglobin percentage and pulse-rate are better indications than tension, while in rapid hemorrhage the falling tension is not only the first, but often the only, indication until the degree is extreme. The character of the pulse is often full and bounding, and the height of the wave which is increased by the lowered tension may readily give rise to a mistake in palpation judgment, the large impulse giving the impression of strength. The small, thready pulse, due to a compensatory effort of the vasomotor center to raise the tension by peripheral constriction, is of later development, and the loss in blood-volume may escape palpation judgment. Pallor and sub-normal temperature are the rule; and later the characteristic subjective symptom of dizziness. Area of cardiac dullness is not increased.

Shock.—The onset of shock may not occur until after the patient leaves the table, perhaps through continued chemical or mechanical irritation of the severed nerves, and then

it may be severe. As already mentioned, for the period during operation blood-pressure determinations afford the earliest and most valuable indications of this loss of vascular tone. The temperature is usually sub-normal, with the subjective symptom of great restlessness and anxiety. Severe shock may exist without rise in the pulse-rate.

Infection.—Bacterial infection usually causes a rise in the pulse-rate, which in some cases may be alarming, and when the possibility exists may cause suspicion of one of the two conditions just mentioned, shock or hemorrhage. But the tension does not fall and may even rise in response to the increased rate. This is true of pulmonary infections, excepting tubercular, and local pyogenic infection at the site of the wound. I have repeatedly seen abdominal cases where hemorrhage or shock was feared from the rise in the pulse-rate; yet the continued observation of normal or increased blood-pressure excluded either. The rise in temperature corresponding to rise in rate and without a fall in tension, confirms a diagnosis of infection. Of course, the later septic form of temperature which sometimes accompanies anemia following hemorrhage must not be taken to mean infection.

Cardiac Dilatation.—This condition is more infrequently recognized, I believe, than any other post-operative cardiovascular complication; yet it is by no means rare, and is of serious import, and, further, when recognized lends itself readily to corrective treatment. From the number of cases I have personally seen, ten in all, I believe many of these cases, all of which show tachycardia, are treated with a view to raising the tension with the idea they are in shock, or suffering from excessive hemorrhage, or that the failing vascular tone needs bracing. As a matter of fact the rapid pulse often occurring in stout individuals where accurate palpation judgments are difficult, is mistaken for a weak pulse. Vasodilators are indicated, or in extremis even bleeding, and not the measures frequently used to increase the tension, such as the Trendelenburg position, abdominal compression, adrenalin, caffeine, and saline transfusion. The registered pressure may be above 180 mm. Hg.

Heart examination will reveal an increased area of cardiac dullness, especially to the left. The impulse, if visible or palpable, will be at or outside the nipple line, usually wide in area and wavy.

This paper is presented with the view of emphasizing the importance of giving more attention to the general condition of patients previous to operation and while the strain and shock of operative manipulation last, and to

the value, during these periods, of blood-pressure observations, especially when controlled by other signs and symptoms. The recent advances in surgical methods and technique leave little to be desired along strictly operative lines, but still many patients go to operation with the old routine of a cursory auscultation for cardiac murmurs and urine analysis for albumin and sugar. During the operation, although excessive details of asepsis and technical surgical skill are observed, the general condition of the patient is merely followed as well as may be by the interne in what intervals he may find to hurriedly feel the pulse between filling his ether-cone, swabbing out the mouth, and perhaps holding up a stubborn jaw. Yet, the one-half to four hours of operation is the most severe and critical period in the lifetime of the patient, and readily apt to produce such variation above or below the normal pulse-tension as taken in relation with the arterial and heart condition, may, on the one hand, determine arterial rupture or cardiac dilatation, or, on the other, respiratory failure in shock or hemorrhage.

After the operation a knowledge of these relations is of extreme importance in distinguishing and in guiding the treatment of certain post-operative complications, all of which may have the common and usually the only noted symptom of tachycardia; or where an anomalous slow pulse may give very deceptive indications when the pulse-rate alone is studied. During that period of marked disturbance in cardiovascular routine it would appear that a more intimate medical knowledge, especially trained in the observance of these surgical crises, would add much valuable light to the general aspect of the case not interfering with but aiding and supplementing the strictly surgical procedure, and that every serious surgical case would be better off if given the benefit of accurate medical interpretation of cardiovascular indications. Such a course would have farther reaching benefits than those immediately accruing to the individual natural relation which exists between medicine and surgery, and which would then find truer expression in more extended co-operation.

THE FUNCTIONAL AND CARDIAC NEUROSES*

BY W. A. JONES, M. D.

MINNEAPOLIS.

The discussion of diseases of the heart is largely speculation unless the pathologist can verify the diagnosis of the clinician.

The myocardium frequently forms a convenient wall behind which many faulty diagnoses can be successfully hidden, and the term *myocarditis*, *insufficiency of the myocardium*, and a *nervous heart*, permit the diagnostician to vacillate until the autopsy findings are completed. The clinician may make a brilliant and plausible diagnosis of a definite disease or disorder of the heart, which is generally protected by his disinclination, or the objections of the relatives of the deceased, to a necropsy. Unfortunately, certain terms are employed relating to diseases of the heart that are as valueless as the commonly employed word *dyspepsia*.

It is admitted by many of the foremost

writers that it is impossible, in many cases, to differentiate clearly between pericarditis, myocarditis, and endocarditis, as they are so often associated, and are usually due to infective processes which may affect the various portions of the heart in varying degrees.

A well established fact is also recognized, namely, that the heart may present no abnormal findings clinically, and yet may be the seat of extensive and widespread disorder. On the other hand, it is undisputed that many of the diseases which involve the heart are clearly defined, and the suspicion of cardiac insufficiency is well founded. It is also undisputed that the valves may be incompetent, the ventricles enlarged by hypertrophy or dilatation, and the position of the organ and its apex may be changed, but does this prove the existence of a specific disease of the heart, and does it not call for closer and wider investigation of other organs of the body, and the possibility

*Read before the Sioux Valley Medical Association Jan. 19, 1906.

of the heart disease being a secondary, rather than a primary, source of disorder?

The diagnosis of endocarditis is more certain where we find a history of acute articular rheumatism or sepsis; of acute myocarditis following diphtheria, typhoid, or similar infections; of chronic myocarditis where syphilis or arteriosclerosis is evident; and of pericarditis from tuberculosis, infective or malignant diseases.

When we consider that disorders or diseases may arise from a variety of causes or complications, how is it possible to distinguish the neuroses of the heart that accompany auto-toxemia, the excessive use of beverages, or physical and mental strain, with its attendant exhaustion of the nervous system, from diseases of the arteries, kidneys, or heart, unless we study the man himself and arrive at our conclusions from scientific deductions on a broad guaged basis?

The cardiac neuroses cannot be sharply limited except from a purely neurological or psychological point of view. It would be wiser to admit that the heart and its functions depend upon a wide field for its excursions into the wonderland of disorder.

The heart depends upon the pneumogastric, the internal branch of the spinal accessory, and the sympathetic for its nerve supply. The true inhibitory nerve of the heart arises from the inferior cardiac nerve, which, if stimulated, slows the action and augments the force of the heart-beat. The depressor nerve of Cyon is the most important branch of the sympathetic. His and Romberg believe the ganglia of the heart are sympathetic, and, from the embryological findings, they conceive them to be sensory in function. It is not difficult to understand, if this hypothesis be true, that in individuals of psychoneurotic tendencies a multiplicity of causes may contribute to the development of cardiac neurosis. Diseases of the nerves, cord, or brain, psychic or emotional disturbances, as well as toxic influences from disease of distant organs, may be direct or indirect factors which produce, first, a functional and, finally, an organic disease.

In many cases of cardiac irregularity or demonstrable alterations, the cause may be seemingly insignificant or in some remote part of the body, but almost invariably it is in an unstable individual.

We are familiar with the neurasthenic who complains of palpitation, cardiac unrest, suspension of action, or high pulse-rate and arrhythmia, and who finally has an hypertrophied heart. His nerve exhaustion has been brought about from the usual beginnings; his fears are

a part of his symptom-group, aggravated perhaps by a thoughtless or tactless practitioner, who gravely informs the already over-excited patient that he has heart disease. This is a suggestion that has long been feared. It finds a fertile field for growth, and thrives and blossoms for years until the cardiac disorder is apparently actual, but in reality it is only a neurosis, curable under proper conditions and when the treatment is directed to the betterment of the nervous system. There may be murmurs and muscular insufficiency, but they are less important, from a therapeutic point of view, than the establishment of a more stable nervous apparatus.

The diagnosis of a neurasthenic heart is based upon the history of a neurotic individual in whom exist the various causes that lead to nerve tire, such as anemia, irritations, and psychic emotions, the alternating periods of palpitation and quietude, and the absence of organic changes in the heart, especially the absence of cardiac diffusion, dilatation, or stasis.

PAROXYSMAL TACHYCARDIA

This neurosis, if it may be called a neurosis, is frequently dependent upon the general causes enumerated, and is found in girls, or in women at the climacteric, and, occasionally, in men. The heart-beat may exceed two hundred in a minute, and may continue from a few hours to a few days, and then suddenly become normal. At times there are dilatation of the right ventricle, dyspnea, constriction, and fear. The attacks may recur for years, and occasionally may terminate fatally from paralysis or cerebral hemorrhage. They are usually due to disturbances of the vagus, and may be terminated by pressure on the vagus in the neck. It is only necessary to keep the patient absolutely quiet, place an ice bag over the precordium, and give an hypodermic of morphia.

Paroxysmal bradycardia is characterized by slow pulse, oppression, fear, vertigo, and syncope. The causes may be due to toxic influences, fatty heart, chronic myocarditis, or arteriosclerosis. Horizontal position and stimulants, ether, alcohol, and strychnia are the usual remedies.

STENOCARDIA OR ANGINA PECTORIS

The familiar symptoms of this disease, violent substernal pain in the cardiac region, great anxiety and feeling of oppression, with pains radiating to the left arm and the vasomotor disturbances, pallor and sweating, are usually attributed to a sudden anemia of the myocardium from sclerosis of the coronary arteries.

The action of the heart and the conduct of the pulse vary in individual cases. The pseudo forms of stenocardia are frequently found in neurotic subjects, and are either hysterical or due to intoxications from tobacco or from psychic disturbances. It is frequently impossible to separate the false from the true type.

Cardiac asthma, as distinguished from bronchial asthma, is classed among the neuroses, but from a non-nervous view-point is frequently the accompaniment of arteriosclerosis, contracted kidney, anemia, and fatty or other defects of the heart. The notable symptoms are sudden dilatation of the left ventricle and a diffusion of cardiac dullness from a paresis of its wall.

In this form of asthma there is a change in the equilibrium of the heart, a special form of dyspnea that is mixed in form, implicating both inspiratory and expiratory acts. The pulse is at first large and full, but soon becomes small and soft. The bronchial form of asthma is characterized chiefly by a laborious inspiration, with whistling sounds indicating an emphysema and an extension of the lung expansion. In the cardioparetic form the lung is rigid, and all auscultatory sounds are absent. There may be other cardiac neuroses, but when we attempt to outline a functional

or nervous heart we soon see our limitations.

If a patient is suffering from symptoms which point to a neurosis the by-paths of investigation must embrace the center from which the pneumogastric and sympathetic fibres arise. The higher pathways to the brain and the influences which expend their forces on the sympathetic system must be carefully considered.

The exclusion, if possible, of cardiac lesions, and the evidences of disease or perverted physiologic activities of the brain and cord, together with fatigue and emotional disorders, will explain many of the cardiac errors. If our investigations end here, and we overlook disturbances of the thoracic or abdominal viscera, we shall fail to arrive at a scientific conclusion.

It requires a good deal of assurance to exclude vascular, renal, and toxic influences, and it demands courage to say to the patient that a nervous disorder explains the cardiac distress. The influence of a good suggestion is worth more than the attempt to establish an inefficiency of the heart muscle. When the physician undertakes to treat a myocardic weakness, or to relieve a cardiac neurosis, the sum of his results is rest and restoration of the nervous system.

PULMONARY CONSUMPTION*

By L. F. SCHMAUSS, M. D.

MANKATO, MINN.

In attending the last session of our State Medical Association there was no paper which I enjoyed more than the one of Dr. L. C. Weeks on pulmonary consumption, because of its unusual practicality. (See the *JOURNAL-LANCET*, Sept. 1, 1906, page 367.) Dr. Weeks hit the nail square on the head nearly every time. There were several points I wished to emphasize during the discussion, but this was cut short on account of lack of time. I will do so now, going into the subject more in detail, with especial reference to diagnosis, prognosis, and treatment.

Diagnosis.—It does not require very extensive personal observation to agree with Dr. Weeks, "that widespread apathy, lack of definite interest, and of practical knowledge concerning the cause, diagnosis, course of treatment, and prog-

nosis of consumption exists; that probably a majority of our profession are merely 'playing' at the prevention and cure of this disease; that the great majority of consumptive cases are not diagnosed until it is too late to do them any good; that a considerable number of these cases do not consult a physician until it is too late, but that, on the other hand, it only too often happens that when a patient in the first stages comes to us, we are either not sufficiently impressed with the importance of making a correct diagnosis, or sufficient time and opportunity are not given to make any diagnosis; that it is not always possible to discover all the existing signs of the disease at one time; and that the postponement of a correct diagnosis usually means a fatal issue for the patient."

How can this deplorable condition be remedied?

*Read before the Blue Earth Medical Society, September 24, 1906.

First, on the part of the patient, by seeking medical advice without undue delay in all attacks of repeated or protracted cough or general malaise. The patient will do so when he once understands that tuberculosis in its early stages is curable, but that an early diagnosis and an early, definite line of treatment is just as essential as it is in the safe management of appendicitis. Again, when that peculiar and unexplained or unfounded feeling of reproach, which tubercular patients and their relatives feel, is dispelled through education, and the general public and these patients know that tuberculosis may be contracted by anyone, high or low, that it is not necessarily hereditary, and that it is both infectious and curable, they are more likely to apply early for treatment.

Second, on the part of the physician, by educating the laity in the directions just mentioned; by viewing every case of repeated or protracted cough or general malaise as a case of probable tuberculosis, unless the condition is explained by another cause or causes; by making an immediate and careful examination of the patient, including family and personal history and examination of the chest and sputum; by not deferring appropriate treatment until a positive diagnosis is made, if such diagnosis is to depend upon the presence of the tubercle bacillus in the sputum. There would be no more justification in this than in the postponement of active treatment in a case of typhoid fever until a Widal reaction is secured. Besides the general apathy and carelessness on the part of many physicians, there is no one thing which so much defeats an early diagnosis as is the erroneous belief that every case of consumption, at any and all its stages, will show tubercle bacilli in the sputum, and that no positive diagnosis is to be made until the germs can be demonstrated. This fallacy has cost hundreds of lives. I will state here most emphatically, with Dr. Weeks, that the absence of the tubercle bacillus in the sputum of any suspected case of tuberculosis, is practically valueless as a negative sign.

How then are we to make a positive diagnosis of incipient phthisis without the clinching evidence of the tubercle bacillus? First, by the eliciting of a reliable family and personal history. In doing so we must not be satisfied with the mere statement of the patient that some one or more near relative died of "lung fever," of "bronchitis," of a "bad cold," of "pleurisy," of "catarrh," or from the effects of "child-birth," or of "old age," etc.; nor must we regard with indifference the fact that he or she has had repeated attacks of "bronchitis," "pleurisy," "lagrippe," or "pneumonia." It is generally assumed that tuberculosis is very prone to develop

in the wake of these diseases, but it is my firm belief that in the majority of cases these attacks were tubercular disease from the beginning. Second, by making a careful and complete physical examination of the chest. This does not mean through the clothing or over a limited portion of the bared chest in front, with possibly including the apices, but over the entire lung in front and behind and from apex to base. It must be remembered that in a considerable number of cases the process begins at the base or other portions of the lung. The principal means of examining the chest are auscultation and percussion, in the order named. Are we justified in depending on one of these methods alone? Decidedly, no. The results of percussion must corroborate those of auscultation, or *vice versa*. Again, we must not expect to find all the typical symptoms or signs of consumption present in any given patient or at any one time. When, however, a good history and the general appearance of the patient are corroborated by definite, although slight, physical signs, a positive diagnosis of consumption can be made, although no tubercle bacilli are discovered in the sputum.

In recent years the Roentgen rays have been utilized in the diagnosis of incipient phthisis. With how much positive success I do not know. It seems to me that any one able to distinguish and interpret these slight and often deceiving fluoroscopic or skiagraphic changes, is also able to discover and differentiate these changes by a careful physical examination.

In leaving this part of the subject I wish to draw your attention to the fact that in many patients a pre-active or latent period exists. This has been referred to as the pre-tubercular stage, and is looked upon by many as a precursor to, or predisposing factor of, the disease proper. While it is undoubtedly true that tuberculosis may be, and is, ingrafted upon debilitated states, upon patients run down from other causes, it is, I know from observation, also true that in many cases the paleness, "nervousness," appreciable loss of weight and strength, the slight cough, etc., before active symptoms, such as aggravating cough, expectoration, night sweats, and decided weakness, etc., become evident, is due to the slowly developing disease itself, and is the result of, and not the cause of, the latter. This period of "incubation" is generally ignored by the patient, and frequently overlooked by the physician.

Having made a positive or only a probable diagnosis of pulmonary consumption, the important, and as yet undecided, question arises with most physicians and especially with the laity, Shall the patient be informed of the facts? Most assuredly, yes. I regard it as inexcusable.

as absolutely wrong, to dilly dally along by telling the sufferer that he or she has a bad cold, a slight attack of bronchitis, etc. Such patients may get well, but are not likely to, because they will not realize the perilous condition they are in, and hence will not exert themselves, will not arouse their energies and reserve powers, and will not coöperate with their physician and friends in the proper management of the case; in fact, under such circumstances some important parts of the treatment are likely not to be employed, for fear of arousing the suspicion of the patient. But the patient is not the only party to be considered in this vital question. The relatives and associates, and the public at large, are to be protected against infection, and this is impossible without the coöperation of the patient. Hence, the best interests of all concerned demand that every consumptive should at once be informed of his or her true condition and impressed with the importance of the case.

Prognosis and Treatment.—There was a time, not very remote, either, when the diagnosis of consumption was looked upon as a death certificate, not only on the part of the unfortunate patients and friends, but also on the part of the physician. That this gloom still prevails to a large extent to-day, that about ten per cent of all deaths are still due to this disease, is explained by the foregoing remarks and the chronic nature of the disease. Marked improvement has taken place within the last ten to fifteen years, and will continue to take place in the future. A great drawback is the pessimism of a considerable part of our profession, and the fact that so many physicians are looking and waiting for a specific. This is as unnecessary as it is unfortunate. Consumption is a chronic disease, passing through various stages and manifestations, often complicated with other conditions, and hence no one measure or drug will cover all indications. We are all agreed on the necessity for rest, an abundance of proper food and fresh, pure air, sunlight, and outdoor living, and continuous supervision of the case in the treatment of consumption, but there is far from unanimity as regards the how and where to obtain these benefits.

This brings us to the effects of climate on this disease,—to the question of whether a change of climate is advisable or necessary. There has been considerable discussion, pro and con, on this question, when, in reality, there ought not be any difference of opinion at all. We are all agreed on the fact that a warm, equable temperature favors and encourages outdoor living, and that in such a climate the patient is less liable to "colds" and frequent relapses, and therefore ought to, and does, do better, other things being equal. But, since this

is only a part of the general line of treatment, the patient's condition, age, circumstances, surroundings, and peculiarities, his social and family ties, his financial standing or ability to support himself and perhaps others depending on him, must be carefully considered before he is advised to leave home and seek health elsewhere. That this is so, that the effect of climate does not deserve the importance which is accorded it, is proven by the fact that even inhabitants of the most favored places develop consumption, and that many, transplanted there from distant localities, even in the early stages, succumb to the disease. Therefore, climate should not, as is so frequently the case, be looked upon as the only consideration, but as one of the important indications. Whether this is to be met, must be decided in each individual case after due consideration of the pro and cons. Personally, I am of the opinion that in the majority of cases in Minnesota a change of climate is not necessary or practicable. What patients, then, should we send to the south or west? Primarily, those fortunates so favorably situated, which, unfortunately make up only a small minority, that they can change their abode without a sacrifice or at least can well afford to do so, that can surround themselves with the comforts and necessities of life and the conditions as required for the successful management of the disease. Secondly, those that do not improve at home, that are less favorably situated, but who are still enabled through their own efforts or those of their friends to furnish themselves with the conditions necessary for a cure. In either case it is taken for granted that the affection has not progressed beyond a certain extent. There will be many cases where it will be difficult or impossible to give a definite or exact opinion, but to advise consumptives to leave home when it is apparent that it will be very doubtful or even certain that the other requisites, besides a favorable climate, cannot be supplied, or where there is no question about these, but the disease has progressed to an advanced stage, is inexcusable to say the least, although some of these cases may be benefited.

I thoroughly agree with Dr. Weeks that the sanitarium has many advantages over the home treatment. It is true that many patients are so favorably situated as to supply themselves with these advantages and others at home, but the great majority are not. Most of these cannot get the necessary rest and support, fresh, pure air, sunshine, proper food, medicines, and medical supervision at home, and for these poor patients state institutions for consumptives are a necessity and a blessing. Then there are those that could obtain these things at home, but, as Dr.

Weeks says, they do not do it. This applies to the management of all chronic diseases. Even a brief stay of a month or more at a sanitarium, where the patient is impressed with the importance and necessity of the various measures, where their systematic application and enforcement will form a habit on the part of the patient, after which he or she may be entrusted to continue the treatment and mode of life at home if a prolonged stay at the sanitarium is impossible, is of inestimable value, and should be encouraged on the part of the physician.

I cannot leave the subject of treatment of consumption without mentioning the fact that in our zeal to find a suitable climate and to work out the best possible hygienic and sanitary measures, we have come to disregard almost entirely the effects of certain drugs in the cure of this disease. This is a mistake and is to be regretted. There is no doubt in my mind but that at least the creosote group, the hypophosphites, and indicated tonics, besides certain fats and oils, exert a favorable influence upon the course of tuberculosis.

I have under diagnosis mentioned a pre-active or incubative period of consumption. Now, let us assume that this condition was recognized and the patient placed upon proper treatment, with a change of occupation and mode of life if necessary, and that he recovered; or, that the disease had already developed when he came under treatment, that this is being carried out at home, at a private sanitarium, or at a public hospital, and that he is doing well; that most or all of the symptoms have practically disappeared. Then, comes the stage which I will call the post-active or period of complete restoration. This is generally neglected by the patient and not considered seriously by the attending physician, and it is my desire at this time to impress upon you and the profession the importance of this period of the life-history of the consumptive. Unless this is appreciated by the parties immediately concerned, many patients will relapse and finally succumb to the disease. My observation especially in connection with surgical tuberculosis has shown that this period of complete restoration (of regeneration) is generally a protracted one, that the change from tubercular to normal or to scar-tissue is a very gradual process requiring many months or even years. During this time the treatment in a modified form must be continued and general supervision of the case exercised, and the patient must not return to his old injurious occupation or to his careless habits, hygienic or otherwise. He must avoid exposures to cold or wet and not neglect even slight attacks of "cold" or ordinary cough. A good state of nutrition should be maintained, and the general health and condition kept above par. Thus

a permanent cure is assured. Even then it is advisable that persons having had consumption, or persons with weak lungs or with a tubercular tendency, should observe good social and hygienic habits.

In closing this paper I wish to draw your attention briefly to other forms of chronic lung changes than tubercular. Chronic interstitial pneumonia or cirrhosis of the lung following cases of pneumonia or pleurisy with delayed resolution, or pneumonokoniosis due to the inhalation of irritants, are well recognized conditions. But there are cases in which neither the history nor the examination justifies us in assuming that any one of these conditions is present. These may, in their history and clinical picture, closely resemble pulmonary tuberculosis; in fact, it may be impossible to make a differential diagnosis unless the tubercle bacillus is found. A careful study of the history, symptoms, and signs, however, will show a milder and more chronic disease, with a more or less atypical course. Besides the ordinary bacteria the meningococcus will be found in the sputum. Whether its presence is merely accidental (coincidental), or whether it is really the exciting cause of the condition present, the future may reveal. I have stated, on one or two previous occasions, that the meningococcus is a widely distributed organism; that I find it present in practically every specimen of sputum which I examine for suspected tuberculosis; that, in addition to meningitis, it may cause inflammation of the respiratory passages, pharyngitis, tonsillitis, and acute pneumonia. But I believe, although this opinion has not to my knowledge been expressed before, that it is also responsible for many cases of so-called consumption, that it is capable of causing a chronic inflammation and destruction of the lung.

BUTTERMILK AS AN INFANT FOOD

August Strauch states that buttermilk has been proven to be one of the best dietetic remedies for gastrointestinal diseases of children, according to the extant medical literature of Germany. Sour buttermilk, however, is not to be administered in its raw primary state, but should be more or less modified. According to Rubinstein's studies, pathogenic bacteria (of diphtheria, typhoid, tuberculosis, bacillus pyocyaneus), as a rule, gradually perish spontaneously in buttermilk. The acidity of the food promotes tryptic digestion. The digestibility of the nitrogenous substances of buttermilk lessens the work of the glands of the stomach and intestines. No absolute rules can be formed for the indications for the use of buttermilk.—*Medical Record*, March 30, 1907.

PRESCRIBING ALCOHOL*

By J. A. CROSBY, M. D.

MINNEAPOLIS

The status of alcohol as a medicinal agent has materially changed in the last quarter of a century. Twenty-five years ago instructors in the best medical colleges held alcohol to be a valuable remedy in a variety of diseases; and in some, such as pneumonia, typhoid fever, diphtheria and acute septic infections, it was considered indispensable and was often prescribed in heroic doses.

There has been, during the past score of years, a growing doubt in the minds of an increasing number of medical men of the real value and efficacy of alcohol as a remedial agency, and at the present time many of the most successful physicians of America, England, and Continental Europe have ceased to prescribe any form of alcohol.

Dr. George M. Gould, of American Medicine, makes the assertion that the majority of physicians have abandoned its use as an essential part of their practice. This radical change of opinion and practice is the result of the persistent and courageous teaching and writing of a few men, notably Dr. B. W. Richardson in England and Dr. N. S. Davis of this country, who by experiments in hospitals and in general practice demonstrated to their own satisfaction that better results could be obtained in the combat with disease when alcohol was wholly eliminated.

The results of their investigation being freely given to the reading medical world has had a marked influence upon the medical practice. The spirit of modern scientific research is subjecting all substances used in medicine to the closest scrutiny, and careful investigation is being made as to their physiological and pharmacological effects upon the organs of the body.

Alcohol has come in for its full share of this pains-taking attention, with the result that physicians who have most carefully followed these scientific investigations have either wholly given up alcohol in their practice or greatly modified its use. The physiological and pharmacological action of a drug being the only rational basis of its use in medicine, it will be of interest to note the results of some of the scientific tests to which alcohol has been subjected.

Dr. A. D. Blackader, of McGill University, in a paper read last June before the British Medical Association, and Dr. James Barr, of Liver-

pool University, in his presidential address upon "Alcohol as a Therapeutic Agent," have drawn some valuable conclusions from which I shall quote. I am also indebted to some published articles by Dr. S. J. Meltzer, of New York, who seems to be the special champion in this country for the continued use of alcohol, and to a number of other writers and authorities upon this subject.

Let us consider the effect of alcohol upon the vital organs and machinery of the body. The exact action of alcohol upon the heart and circulation is still somewhat obscure, notwithstanding all the work that has been expended upon its elucidation. The majority of investigators in Germany, England and America, have told us that careful experiments upon animals have indicated that alcohol has very little direct action upon the heart. There is a slight stimulation due to a reflex from the stomach. There is also a slight transitory action upon the heart-muscles as upon all of the muscles of the body, lasting about thirty minutes, but followed, especially if the dose be large, by a depressant action which more than outweighs the temporary stimulation. A few, as Wood, in America, still claim a definite stimulant action upon the heart-muscle from alcohol in minute doses. Dr. Wood's experiments were made last year upon dogs and the hearts of reptiles, with solutions of 1 per cent or less. His conclusions, in his own words, were: "Alcohol in the normal animal does not seriously affect the blood-pressure; after vasomotor paralysis from section of the cervical cord, it increases the blood-pressure; it enormously increases the rate of blood-flow; it directly stimulates the heart. Therefore the general effect upon the circulation of a moderate dose of alcohol is a great increase in the rapidity of the circulation caused by cardiac stimulation, with vascular dilatation due to vasomotor depression."

It is admitted by all, however, that with large doses alcohol acts as a direct depressant to the heart and general arterial system.

The results obtained by experiments upon animals have been corroborated by observations at the bedside. On the normal individual when placed in bed, alcohol produces no appreciable change in the pulse-rate or blood-pressure.

In the wards of the Mass. Gen. Hospital Dr. Cabot has recently made a large number of observations on the blood-pressure, pulse, respiration, and temperature of patients, chiefly typhoid,

*Read before the Hennepin County Medical Society, February 4, 1907.

before, during, and after the administration of alcohol in varying therapeutic doses, and found that neither the blood-pressure showed any variation which could reasonably be referred to the action of alcohol, nor was the pulse-rate, temperature, or respiration affected by it. He confirmed these by an additional series of observations upon more than 300 other patients suffering from a variety of diseases, and he concluded that so far as can be measured by instruments at present at our disposal the action of alcohol upon the circulation is nothing.

A series of most carefully conducted experiments by Crile of Cleveland led to the same conclusion, and Dr. Blackader says that similar investigations in the wards of the Montreal General Hospital have given practically similar results, and to him the conclusion seems inevitable, that the stimulating action of alcohol upon the heart has in the past been over-estimated and must now be considered of feeble and transient character.

Upon the respiratory system, the effect of alcohol may be briefly summed up: In moderate doses it has little effect, in large doses it becomes a depressant.

The action of alcohol upon the nervous system is a complex one, and may vary considerably in different individuals. The first effect may be one of apparent stimulation with indications of increased motor and mental activity. This apparent effect, however, is not due to the action of alcohol upon the centers controlling this activity, but to a depressing or paralyzing action upon the higher inhibitory centers. This has been illustrated by comparing it to the increased speed of the engine when the brakes are removed. The increased supply of blood to the brain may have some part in this effect.

The true direct effect of alcohol upon the nerve tissues is undoubtedly a depressing one, manifesting itself first upon the highest and last acquired centers of judgment, discrimination, and self-control. These become paralyzed, with the result that the centers of thought and motion, which, under ordinary circumstances, are inhibited and retarded by these higher faculties, act now with increased freedom.

Or, as Dr. Barr puts it, "The stimulating effects are deceptive, being merely a weakening of the normal restraints. The large bounding pulse, for instance, is not due to more vigor, but to a vasomotor paralysis with dilatation of the arterioles and lessened systolic pressure. The increased flow of ideas is likewise a disorderly outpouring, due to a paralysis of the normal control, and it is a wise provision that reporters are not admitted to hear the usual after-dinner speech—it does not look well in print."

It is very clear that alcohol does not increase the mental functions or the activity of the motor centers of the nervous system, but definitely lessens their capacity for work and, in large doses, produces a benumbing effect. It is not a stimulant, but a sedative and narcotic.

Much careful work has been done to determine the effect of alcohol upon the normal resisting power of the individual to repel bacterial invasion. Prof. Simms Woodhead shows the deleterious effects of alcohol as a protoplasmic poison, and that the changes in the nerve and muscle cells closely resemble those produced by the diphtheria and other toxins. He points out that it interferes with the oxidation of the tissues and leads to fatty degeneration. It lessens phagocytosis, diminishes the resistance to acute and specific diseases, and interferes with the acquisition of immunity.

A long series of experiments upon animals has been carried out in this country and in Germany, which show that the continued administration of alcohol in full doses in infectious diseases, increases the duration and severity of the intoxication. Alcohol given to rabbits before infection increased the susceptibility to disease, and after infection decreased the resistance of the animal.

In animals artificially immunized against disease alcohol diminished the specific receptors and thus lessened the immunity.

It has been urged against these investigations that the doses of alcohol were unduly large, and some recent experiments by Hare have led him to claim that alcohol in medicinal doses increases the bacteriolytic powers of the blood. It is also contended that the result of studies on animals cannot be used as evidence of the action of alcohol on sick men. Such considerations may influence our judgment to some extent, but, qualify them as we may, these experiments speak emphatically against the lavish use of alcohol in every form of bacterial disease.

What influence has alcohol upon the general metabolism of the body? The experiments of Atwater, confirmed by other observers, have shown that alcohol, under certain conditions, is capable of being oxidized in the body, and thus may be a source of energy. From this has been argued that it is a food, which can be utilized in conditions when other food cannot be digested or absorbed; that it requires no digestion and is absorbed directly from the stomach, and takes the place of carbohydrates and fats, and saves the waste of proteid tissues.

This is probably to some extent true, but that alcohol is food in the ordinary sense of the word has been vigorously denied by many leading physiologists.

Professor Von Bunge of Switzerland says that "to be considered a food a substance must not only be capable of supplying energy to the body, but it must supply energy at the right time and place and in the right way. Any substance to be considered a true food must be capable of assimilation after digestion and circulation; it must become a part of the living cells of the body. Under the influence of the cell nuclei the complex molecules of the food substance must be broken up into simpler ones, thus liberating energy. Alcohol and many other substances may be oxidized in the stomach, liver, blood, or tissues, but this is not the sort of vital metabolism whereby the life processes are maintained, but a mere chemical process, which, in the case of alcohol, is set up for the purpose of destroying and eliminating this poison, thus preventing its harmful effects upon the body."

Chittenden, in a paper upon "Alcohol as Food," says: "It is quite plain that while alcohol in moderate amounts may be burned in the body, thus serving as a food in the sense that it may be a source of energy, it is quite misleading to attempt a classification, or even a comparison, of alcohol with carbohydrates and fats. Since, unlike the latter, alcohol has a most disturbing effect upon the metabolism or oxidation of the purin compounds of our daily food. Alcohol therefore presents a dangerous side wholly wanting in carbohydrates and fats. The latter are simply burned up to carbonic acid and water, or are transformed into glycerine and fat, but alcohol, although more easily oxidizable, is at all times liable to obstruct, in some measure at least, the oxidative processes in the liver and probably of other tissues also, thereby throwing into the circulation bodies, such as uric acid, which are inimical to health, a fact which tends to draw a distinct line of demarkation between alcohol and the two non-nitrogenous foods."

What bearing have these facts upon the treatment of disease?

Last June Dr. Thomas Mays, of Philadelphia, at the meeting of the Am. M. A., read a paper upon "Alcohol as a Factor in Consumption." In this paper he showed the effect of alcohol in causing the degeneration of families, as well as individuals: that the children of alcoholic parents are much more likely to suffer from tuberculosis and from nervous diseases and degenerations than are the children of abstemious parents. He quotes investigations by Prof. Von Bunge of three groups of cases: In the first group both fathers and mothers were abstemious; in the second group the fathers were hard drinkers; and in the third group both fathers and mothers were hard drinkers. Among the children of the second group consumption was two to four times,

and of the third three to six times as prevalent as among those of the first group.

He concludes that alcohol and consumption are allied as cause and effect, and that the latter is frequently the indirect result of the pernicious effect of alcohol upon the nervous system.

We have seen that alcohol lessens the resistance of the patient to the toxic effects of the bacilli, weakens the heart, and impairs assimilation and nutrition, so that its use in tuberculosis can only be harmful.

Dr. Kellogg says: "There can be no question that alcohol predisposes to tuberculosis disease. The weakened heart, which is exhausted in its efforts to force the blood through a diminished respiratory field, is still further weakened by the depressing effects of alcohol when it is employed, thus impairing the general nutrition. Leucocytosis, upon which resistance to the attacks of disease and its ultimate cure chiefly depend, is lessened, and the general vital resistance is diminished. In the light of present knowledge there can be no possible apology for the use of alcohol in this disease."

The physiological action of alcohol upon the heart and circulation is a contra-indication for its use in pneumonia, though this and typhoid fever are the two chief diseases in which its use is still by some considered indispensable.

The overworked heart in pneumonia requires not an agent which will still further weaken its force and waste its energy as alcohol has been shown to do, but something which will energize its weakened muscle—while lessening the work required of it.

Again, how much the issue in pneumonia depends upon leucocytosis should not be forgotten. The use of a drug which hinders this process and the development of antitoxins is surely irrational. Dr. Barr, in the paper referred to, sums up his discussion of this subject by saying that almost the only use of alcohol in pneumonia is as a soporific and sedative, that for this purpose he uses a light beer containing 4 per cent or 5 per cent of alcohol given in the evening; that it is chiefly useful in alcoholic subjects and where the nervous system is in an irritable condition, accompanied by much muscular tremor.

The same authority says that the employment of alcohol in typhoid fever is even more useless than in pneumonia; that there is scarcely an indication for its use, while the protracted character of the disease allows this medicine more time to work mischief.

Dr. Barr condemns the use of alcohol in the acute specific diseases, on the ground that it diminishes the normal resistance of the body to the invasion of disease germs.

From these premises which are the consensus

of opinion of a fair share of our representative men we may assume that while alcohol may have a use in some stages of a few diseases, its use is circumscribed even in these and its value of a negative sort. The crusade so ably carried on against the deleterious patent nostrums which flood the country with illicit and low grade alcoholic stimulants has been a powerful factor in focusing the attention of the profession upon alcohol as a medium and preservative for remedies prescribed, and the commercial and scientific shrewdness that has extracted from crude drugs their active principles and placed them on the market in convenient and attractive form has also contributed to the change of practice. In view of the evil effects of alcohol in predisposing to tuberculosis and various nervous diseases and degenerations, the physician of to-day is seriously called upon to consider the ethical side of the proposition. A physician deals with a subnormal person. He is in possession of facts withheld from the priest or the lawyer. He must be judge and jury, doctor to prescribe and nurse to carry out directions, if no other means is at hand. Coming as he does into relation with a subnormal condition he should fully realize the gravity of the situation and the susceptibility of this patient who is physically unbalanced, to fall under the influence of this seductive drug and become addicted to its use.

In answer to a letter of inquiry as to the use of alcohol Dr. Geo. Dock, of Ann Arbor, Mich., writes me as follows:

"Within the last year or two I have come to look with some favor upon the use of alcohol as a tissue saver in diabetes, and last summer was very much impressed by the ground taken by Dr. S. J. Metzger before the British Medical Association on the subject, 'Alcohol in Acute Infectious Diseases.' In general, however, I still think the main use of alcohol in medicine is based upon the physiological action long ago stated by Solomon namely, that 'it makes glad the heart of man' and so I use it practically not at all, except as a mild psychic stimulant, well diluted, in convalescence from exhausting disease. That is to say, I did not and do not use it in typhoid, pneumonia, septicemia, or in fact any acute disease."

The world has not greatly changed its estimate of alcohol since Omar Kayyam epitomized it as "The Sovereign Alchemist that in a trice Life's leaden metal into Gold transmutes."

"This," says Emerson, "is the reason why artists, poets and musicians love wine, narcotics, opium, the fumes of sandal wood, and tobacco or whatever species of animal exhilaration, to add to their normal powers.

"It helps a man to escape the custody of that body in which he is pent up, and that jail yard of individual relations in which he is enclosed."

It is an attractive experience, seductively easy of accomplishment and tenacious of continuance.

The physician is therefore not without his responsibilities in the matter of its prescription.

That the evil results of the prescription of alcohol are incalculably greater than any possible negative good derived from its use is a conclusion I have slowly reached in the course of twenty years of general practice.

I shall be interested to learn how far my confreres of the Hennepin County Medical Society coincide in this opinion.

WHY IS ADVERTISING UNETHICAL?

Dr. A. L. Benedict, of Buffalo, N. Y., in a recent address to a graduating class answered the above question in the following sensible manner:

There is nothing essentially sinful in having a large sign or in mailing cards, dodgers, and almanacs to persons whom you do not know, nor in paying for newspaper advertisements, nor in bragging about yourself as wonderfully gifted, nor in making a partnership with some fancy name. All of these methods are used in other businesses. Some are, in and of themselves, perfectly straightforward: others are merely harmless exaggeration and distortion of the literal truth, that people expect and discount in advertisements. Why are they unethical? Let us answer this question with another: Why are you tempted to resort to them? Because you expect they will increase your trade. But why will they increase your trade? Because most physicians are too gentlemanly to employ them. There you have the gist of the whole matter of ethical objection to quackery. It is not that any one means of advertising is, of itself, sinful or dishonorable, but merely that the man who resorts to these means is competing unfairly, and is relying on the fact that the majority of his opponents are too honorable to resort to his own tactics. The quack is like the man who looks at his opponent's hand in a game of cards, like the pugilist who strikes a blow when his opponent is giving him a generous chance to recover himself, like the man who slips into a seat in a crowded car that the man ahead of him is offering to a woman. Don't tie yourself for life to this kind of companion: rather pick out an honest thief or a square burglar.

PHYSIOLOGIC CHEMISTRY

CONDUCTED BY

RICHARD OLDING BEARD, M. D.

Professor of Physiology, University of Minnesota

ASSISTED BY

J. P. SEDGWICK, B. S., M. D.

Instructor in Physiologic Chemistry, University of Minnesota

MALTOSE

The recent admittance of different preparations of malt sugar to the U. S. Pharmacopeia would seem to warrant the following:

The disaccharide (maltose) is shown to be of great physiological importance by its formation from other carbohydrates in the process of digestion. This fact, together with the diastatic ferment contained, which will not be considered at present, has led to its frequent use in medicine.

The food value of maltose, though great, has, in the minds of many, been exaggerated. One tablespoonful of ordinary malt extract, supposing it to contain not over 15 grains of sugars, would have a value, roughly reckoned, of 60 calories. Given to a man requiring 3,000 calories, it would supply one-fiftieth of the heat value needed in a day.

It is, however, in the feeding of infants that the greatest amount of maltose is used in medicine. In our own country the value of malt sugar seems to be appreciated best by the layman and by proprietary food concerns. In fact, the subject is in a very unsatisfactory and unscientific position.

No other part of infant dietetics has such a dramatic history. Liebig, the father of physiologic chemistry, prepared a malt soup for a grand-child. The child thrived wonderfully. Liebig became very enthusiastic, and wrote a great deal on the subject. He based his reasoning on the value of the "transformation of starch into the soluble forms of sugar and dextrin," and upon the need of the control of the quantity of alkali. The writings of this greatly respected chemist resulted in a very wide use of the malt soup and often in its misuse. This misuse brought the preparation very generally into disfavor, except among a few careful clinicians, such as Widerhofer, who rightly understood its indications.

This was the condition of the subject when Keller, at the Czerny clinic at Breslau, made his interesting discoveries of high ammonia excretion and acidosis in infants suffering with gastro-intestinal disturbances.

By very painstaking study of the metabolism of infants, Keller demonstrated the danger of fat feeding in such cases and set himself the task of finding a nourishment that would con-

tain a substitute for the fat and also an alkali to overcome the acidosis. His accurate chemical reasoning led him to the adoption of a diluted milk with malt sugar and potassium carbonate, a modified Liebig malt soup. The clinical results were brilliant. The Keller malt soup is now in general use in continental hospitals. When confined to cases in which it is indicated, as in certain intestinal troubles and atrophy, it is of undoubted value. In a recent number of the *Arch. des Med. des Enfants*, Terrien has attested to its value. Heubner says, in speaking of the Liebig soup in the treatment of follicular enteritis: "Widerhofer recommends this diet almost as a specific, and I must agree in this advice." Czerny of Breslau and Baginsky also recommend it highly. The writer has also used it in proper cases during the past three years and found it of great value.

The indiscriminate and long-continued use of malt preparations may, however, have disastrous results, as the writer can testify from a case of scorbutus, which followed three months use of a proprietary food.

It is unfortunate that, among us, the too strict adherence to the high-fat feeding and the bogie of the indigestibility of casein have kept us from a correct appreciation of the value of maltose.

SEDGWICK.

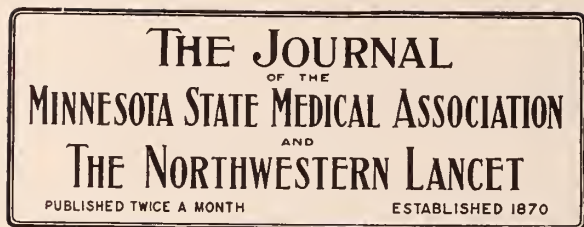
A NOTE ON OXALURIA

Von Noorden found oxalate crystals to be plentiful in orthotic albuminuria, and interpreted this as an indication of a disturbance of the metabolism. Langstein, in studying albuminurias in children, found, by chemical analysis, that the oxalic excretion in the urine of one case of this kind was "abnormal." He makes this very guarded statement: "However, since I have just begun the study of oxaluria on the children at our clinic, and the physiologic variations must first be determined, this finding is recorded with reservation." (1904.)

Shortly after this time, at the request of Langstein, I took up the study of oxaluria in children. The study is not yet satisfactorily completed.

As references have been made to these analyses in the literature, the following statement may be of interest: The analyses made so far indicate that the oxalic excretion in the urine of children, is not only relatively, but also absolutely, higher than in adults.

SEDGWICK.



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APRIL 15, 1907

STROPHANTHUS vs. DIGITALIS

The average general practitioner of medicine who uses digitalis or strophanthus often feels that he is prescribing drugs that are unreliable in their preparation and uncertain therefore in their action. This is due in part to an over-abiding faith in digitalis and its derivations, and a lack of confidence in strophanthus.

R. A. Hatcher, Ph. G., M. D., in an article on "Tincture of Strophanthus," in the Journal of the A. M. A., for April 6, 1907, shows very clearly that strophanthus and its active principle, strophanthin, act much more promptly than digitalis or digitoxin. Strophanthus produces much less vasoconstriction in the splanchnic area than digitoxin does, and while this is a disadvantage in shock, it is often desirable in producing diuresis, since the constriction of the vessels in the kidney by digitoxin may seriously interfere with its diuretic action.

Strophanthus does not disturb the coronary vessels and is not so cumulative in its effects.

Strophanthin is much more soluble in water; is not an irritant, and therefore may be injected hypodermically; it is much more active

and not nearly so expensive as digitoxin. The therapeutic effects of strophanthus are the same as those of digitalis, and there are less disagreeable side-effects. Strophanthus fell into disfavor on account of the variability in preparation and the uncertainty of the dose; many tinctures were exceedingly weak and did not bring about the expected or desired results. Hatcher has shown by careful pharmacological experiments with tinctures that he secured from various drug-stores in New York City and with tinctures made in his own laboratory from seeds that were several years old, that strophanthus is safer and more reliable and satisfactory than digitalis in any form. The product is more uniform from strophanthus seed than from digitalis. The leaves of the latter deteriorate rapidly, and as there is a want of uniformity in the time of collection, methods of drying, and from the source of supply, it is thought by the writer that strophanthus is the better drug. Hatcher points to the fact that the strength of the infusion of digitalis varies greatly with the manner of preparing it, an infusion made from the powdered leaf much more nearly representing the full potency than one made from the leaf which has been merely broken up in the mortar, as is frequently the case.

Under the circumstances the physician may feel more confident of results if he uses strophanthus or strophanthin, rather than digitalis or digitoxin.

THE MAYOR OF MANKATO

Dr. J. W. Andrews has been elected mayor of Mankato, Minn. Dr. Andrews has been a resident of Mankato for many years and has enjoyed a very large practice; yet he voluntarily gives his time to the political betterment of his home city. Dr. Andrews has always been identified with medical societies in the state and has always worked for the interests of his profession. He has received the highest honors the State Medical Association could confer upon him, namely, its presidency.

Dr. Andrews is an aggressive man, and will do everything in his power to carry out the laws governing his community. The "lid" question is an important one in Mankato, and, knowing Dr. Andrews' personal attitude toward the liquor question, it will be interesting to follow his rulings. There is no question but the doctor will do what he believes to be right toward his townsmen and for the good of the saloonkeeper. Undoubtedly, the tight

lid will be favorably received by the liquor men. Privately expressed opinions gathered from various sources show the willingness of the saloonkeeper to conform to the laws; to rest one day in the week from his business, and to conduct his shop in an orderly manner, provided, his associates are obliged to conform to general orders. It is the little man, the man who thinks he can evade a few of the restrictions without the penalties who causes so much disturbance among the liquor-dealers.

It takes a courageous man to be the mayor of a progressive city and to fill the office in an acceptable manner to friend and foe. Dr. Andrews has the courage.

It will also be interesting to note Dr. Andrews' experiments on questions pertaining to the public health, the enforcement of the public health laws, the management of the city hospital, and the general cleanliness of the city streets and by-ways. Dr. Andrews has an opportunity to distinguish himself and to make a record for his city.

THE JOURNAL-LANCET extends him its best wishes for a successful term in office.

THE ANNUAL MEETING OF THE HENNEPIN COUNTY MEDICAL SOCIETY

Dr. G. Frank Lydston, of Chicago, is to be the guest of honor in Minneapolis on the evening of April 15, and will address the members of the Hennepin County Medical Society on that date.

Dr. Lydston is a fluent writer and speaker. He is an originator of ideas medical and otherwise, and is recognized as a brilliant and successful diagnostician. He is full of fire and enthusiasm, and always creates a favorable impression by his forceful and argumentative opinions. He has traveled much and has a broad mind and hence takes a broad and advanced view over the field of medicine and things that are allied to it.

The meeting will be at the West Hotel, as usual, and the guests are expected to be on time, 7:30 p. m.

A number of out-of-town men will be present and if the banquet and meeting are to be as popular as in former years, a large attendance is expected. Tickets may be secured from the secretary, Dr. C. H. Bradley, or of any member of the Executive Committee. It is advisable that seats be reserved in advance in order that there be as little confusion as possible.

QUACKERY RUN MAD

The Forum, of Fargo, N. D., gives a two-column notice to the removal of Dr. F. E. Savage from Wheatland, N. D., to Fargo. It appears that Dr. Savage is to make Fargo a medical center to which people may go "who might have looked to the Twin Cities or Chicago, or even New York and Paris." The machinery of his office is wonderful and intricate, and improved and patented, and some of it will "prevent the action of rabies, lockjaw, small-pox, diphtheria, pneumonia, antidyenteric and all other contagious diseases." If one has been exposed, or thinks he has, to any of these dreaded diseases, "all one has to do is to appear at Dr. Savage's office and take the immunizing bath and serum injection."

He has the "largest phonendoscope (*sic*) in the West," "an x-ray intensifier," "a 220-volt Cauting" (*sic*), and various other intricate machines.

"Dr. Savage's experience and reputation will no doubt soon mould a place in the affairs of the city of no mean dimensions and his coming should be welcomed by all citizens, if for no other reason than that his advent will make an epoch in the city's history where treatment of certain serious diseases were successfully taken up and pilgrimages to the far east were stopped in and about Fargo."

And this is the people's Forum!—of Fargo, N. D.

CORRESPONDENCE

CUBA AS A WINTER RESORT

Bayata, Cuba, March 24, 1907.

TO THE EDITOR:

We are all aware of the increase of diseases and the decrease of vitality towards the latter part of the northern winter. When we have time to reflect over the cause of the spread of influenza, the increase of pulmonary, catarrhal, and other ailments, and the increased feebleness of some invalids during a certain time of the year, we cannot deny that unhealthy atmospheric conditions are at the bottom of it all. It is not natural to be closed up in houses provided with thick walls to keep the fresh air out, and the stove, and steamheat are very poor substitutes for the rays of the sun. The patient thus shut up will soon find the Minnesota breezes too stimulating, the vitality to react is wanting, and ailments present themselves. The need of

fresh air and outdoor life has long been recognized as essential in combating certain diseases and as beneficial for all. Those of our patients that are able financially and physically to migrate generally inquire where to find the best winter climate when the mercury contracts. California, Arizona, New Mexico and Florida have enjoyed the patronage of a good many of our patients, and have often given satisfaction. Of late Cuba and Mexico have come in for their share of this patronage and have a fair show to keep it. There are several reasons why Cuba deserves more attention than she has received in the past:

1. Its temperature is higher and more even throughout the winter than in any of our southern states, and at the same time the heat is never oppressive. Sixty-five to 85 degrees is the most prevailing temperature.

2. The fresh sea breeze which sweeps the whole island is more pure and invigorating than the ordinary atmosphere in the states.

3. The vegetation and soil are such that no dust or sand-storms are encountered.

4. The winter is the dry season in Cuba with almost constant clear skies and beautiful sun or moonshine, with flowers in the green meadow and refreshing baths in the clear river.

5. Insects are less troublesome than is generally surmised. Mosquitoes are not even noticed, and fleas are fewer than in the sandy southern states. No poisonous reptiles or dangerous animals of any kind exist in the island.

6. The communications are as good and cheap as in the states mentioned, and Cuba is fast becoming American.

A railroad is building to Key West with only four hours sea journeying to Havana, and next winter boats will be put in service making the trip between New York and Havana in two days. That the people of the American metropolis will have but little use for the long and tedious railway journey to California, when a two-days' trip on a floating palace will bring them to a land with eternal summer, is evident. But the Minnesotan is not slow to appreciate advantages. No state is comparatively so well represented in Cuba in almost every respect as Minnesota. Whether this fact is due to its cold winters or the wide-awake, intelligent character of its citizens, I do not know. Probably both factors co-operate.

It has been claimed that the Cuban atmosphere is very moist and that tuberculosis is very prevalent here. Cuba has practically an ocean atmosphere, which we all appreciate, and is enforced by an elevation of 500 to 1,000 feet, but little inconvenience is felt from dampness. While it is true that tuberculosis is the most

frequent cause of death in Cuba I do not think that this condition is due to the climate. Anyone who has seen how the average Cuban lives, can explain it only by the wonderfully mild climate that they do not all die from consumption. The Cuban has no decent house to live in, and no warm bed to sleep in during the often cold nights; the children are naked, and the grown-up people have not enough clothes to keep themselves comfortable. The worst of all is that in the midst of a prodigal nature the Cuban is too lazy to provide sufficient food for himself and family to keep their physical condition strong enough to combat disease.

I have had phthysical patients here as well as in several other places, and I can conscientiously say that they have fared as well here as elsewhere. Catarrhal, bronchial, and chronic rheumatic ailments are generally improved rapidly. For advanced life the Cuban winter seems to be just the thing. During the two years I have been here I have met a number of persons on the down-hill grade of life, and they have all enjoyed themselves. Children also seem to thrive well and generally grow fat. If one runs barefooted in the grass sores are liable to trouble the part exposed. Malaria yellow fever and other tropical diseases need not be feared.

Here in Bayata, Santiago Province, are about fifty Minnesota people who have been here over a year, and not one of them has suffered from the change, but several who suffered from rheumatism and catarrh in Minnesota feel much better here. During the rainy season, May to November, mosquitoes are a little more numerous than at present, but are never as bothersome as in the states. No glass is used in the windows. Mosquito-bars are unknown, and a civilized northerner can sit on his veranda any evening of the year without suffering from either cold or insects. Sun-strokes are not known in Cuba. There is very little difference between summer and winter, the nights are always cool and comfortable.

The only thing to complain of in Cuba is its undeveloped condition. With four hundred years of civilization, the Cuban, the peaceful and easy-going being in creation, is unable to rule himself and does not care to take the trouble to harness and rule nature. But the American is here, over fifty millions American money goes annually to Cuba, and brains and muscles are following. The enormous resources of the island will, in American hands, soon be developed. Railroads, waterways, mines, and plantations are promising abundant returns and Uncle Sam is bestowing his fatherly care on the whole, guaranteeing progress and prosperity.

A. LIND, M. D.

REPORTS OF SOCIETIES

ST. LOUIS COUNTY SOCIETY

The St. Louis County Society passed resolutions at its February meeting, adopting the rates for insurance examinations conforming to the rates recommended by the State Association.

Dr. Riggs, of St. Paul, was with us for our March meeting and gave us a very pleasant and profitable evening discussing "Tropho-neuroses and Their Treatment." The attendance was thirty-nine.

C. W. TAYLOR, M. D., Secretary.

WOMEN'S MEDICAL CLUB OF MINNEAPOLIS

The Women's Medical Club met in regular session Wednesday evening, March 27th, in the medical library rooms. The paper of the evening was by Dr. Mary S. Whetstone, entitled "Foods and Their Value." It was a scientific presentment of the chief foods upon which we rely for sustenance; the relative proportion of food-principles which each contains, and their value in forming a correct diet. Discussion followed, and was closed by Dr. Whetstone.

FLORENCE C. BAIER, M. D., Secretary.

HENNEPIN COUNTY SOCIETY

A regular meeting of the Hennepin County Society was held April 1st

In the absence of the president, the vice-president, Dr. A. T. Mann, occupied the chair. Forty members were present. The Censors reported favorably on the following named physicians, who were duly elected to membership:

Dr. O. R. Bryant, 3457 Chicago Ave.; Dr. D. F. Fitzgerald, 111 6th St. S.; Dr. A. E. Hedback, 1103 E. Franklin Ave.; Dr. W. S. Nickerson, University of Minn.; Dr. F. J. Pratt, 328 Central Ave.; Dr. C. A. Witham, 1501 E. Lake St.; Dr. J. A. McLaughlin, Pillsbury building; Dr. M. J. Lynch, 519 W. 22d St.

The following physicians were nominated for membership:

Dr. Elmer Nicholson, 1527 E. Lake St., and Dr. C. P. Nelson, 3203 Lyndale Ave.

Dr. F. A. Knights presented a letter from Dr.

Fullerton, secretary of the State Board of Medical Examiners, in which he urged the members to induce prominent laymen to write our legislators opposing the chiropractic bill now before the legislature.

Dr. A. E. Benjamin presented a letter from Mr. L. S. Donaldson, which proposed to give to the Society space for its library and a hall for a meeting-place in his new building. The letter was referred to the Board of Trustees.

The scientific program follows: Dr. G. D. Haggard read a paper on "Nephritis," which was discussed by Dr. W. H. Cook and Dr. A. W. Abbott.

Dr. R. O. Beard read a paper "La Diète Hydrique in Gastro-intestinal Infections."

Dr. A. W. Abbott reported a case of labor, complicated with uterine fibroid in which a Porro's operation was performed. Dr. Abbott said:

This is a uterus, with fibroid tumor attached, which I removed on the 28th. As you will observe, the uterus has the appearance of having been lately occupied by an ovum at full term.

I get the following history from Dr. M. J. Jensen, of this city: Patient is 42 years old; this being her first pregnancy. The last period was on June 15, 1906. She had no unusual symptoms during pregnancy. Upon the evening of the 23d of March she was taken with labor pains, which were not severe until the morning of the 27th, when Doctor Jensen was called. Finding an obstruction in the pelvis Dr. A. B. Cates was called in consultation, who diagnosed a myoma almost completely obstructing the pelvis. They both advised the Caesarean section. The patient was brought to my hospital at one o'clock a. m. on the 28th, and operated upon as soon as she could be gotten ready. I found the woman in good general condition; pulse 108; temperature 90° F., with strong uterine contractions recurring every five minutes. The urine was normal. The chest and abdominal organs were apparently healthy. The uterus evidently contained very little amniotic fluid, although the waters were not broken. The head of the fetus apparently lay near the left horn of the uterus, the fetus lying upon its left side with its back to the mother's right. I thought that I could distinguish a little flutter of the fetal heart, but I was undoubtedly mistaken, because Drs. Cates and Jensen had both decided that the fetus was dead, and the appearance of the fetus and cord, after removal, would indicate that it had been dead for several hours at least. Upon making a vaginal examination I found the pelvis obstructed by a hard, immovable mass, which occupied practically the whole of the

true pelvis except the lower two inches. One finger could with difficulty be passed between the summit of the tumor and the pelvic bone. The pelvis was normal in size in all diameters. It was impossible to outline the os with the finger. It was so high and the obstruction from the tumor so great, it was possible only to just touch a portion of the anterior lip. The diagnosis of Drs. Cates and Jensen was confirmed.

Dr. Cates informed me that he had made all justifiable effort to elevate the tumor without result, and my own effort for the same purpose was equally ineffectual.

As the opening between the tumor and the pelvic bone was too small to allow of a symphysiotomy or a pubiotomy, or even an embryotomy, a Caesarean section was the only alternative. This was accordingly done, and the child was delivered without much difficulty, and with scarcely any hemorrhage. The greatest trouble was in the delivery of the head on account of the contraction of the uterus, but this required only a moment. The tumor was now easily raised out of the pelvis, and the question arose whether it would be better to make a myomectomy and leave the uterus, or to make a complete Porro operation. The latter was decided upon, as there were evidently other nodules in the walls of the uterus. The uterus with the tumor was therefore removed.

It will be seen from the specimen that the size and position of the tumor was such—the tumor lying under and in front of the cervix, and almost completely blocking the pelvis—that any other procedure would have been impossible. Had we known the exact size of the tumor and that its pedicle was so narrow, it would have been possible to have removed the tumor by morcellation, and then removed the child by the natural way, but this could not be determined beforehand, and had we been able to exactly determine these points in regard to the tumor, it is questionable whether the shock of the operation would not have been much greater than in the method adopted.

That the mother is making an absolutely normal recovery is very largely due to the prompt and correct diagnosis made by Drs. Cates and Jensen.

Dr. F. R. Woodard reported a case of ulcer of the stomach, which had ruptured. The specimen was shown.

Dr. F. A. Dunsmoor showed specimens of fibroid tumors, and also fibroids that had broken down and become malignant, and a specimen from a case of extra-uterine pregnancy.

Dr. C. N. Spratt, the librarian, again reported that periodicals would be delivered on the request of members, and he further asked for

suggestions in regard to books or journals desired by the members.

Dr. Mann again announced the annual banquet, April 15th, at 8:00 p. m. at the West Hotel. Dr. G. Frank Lydston, of Chicago, will speak on the subject "Practical Points in the Surgery of the Prostate, and Plastic Surgery of the Urethra."

C. H. BRADLEY, M. D., Secretary.

MINNESOTA ACADEMY OF MEDICINE

The regular meeting of the Academy was held Wednesday evening, April 3d, at the Minneapolis Club, Dr. Beard, the president, presiding. There were 33 members present.

In the absence of the secretary, Dr. J. G. Cross was chosen secretary pro tem.

Dr. Dunsmoor, of Minneapolis, presented a patient with a tumor on the anterior surface of the thigh. The case was examined by the members of the Academy.

Dr. Sneve reported the progress of the committee appointed at the March meeting in the interests of the bill for detention hospitals, which came before the legislature.

Dr. Dunsmoor then presented specimens of an intraligamentous fibroid and of a uterus showing all three types of fibroids, one of which had undergone malignant change.

Dr. Arnold Schwyzer read a paper on "A Résumé on Osmotic Pressure and Electrolytic Disassociation as They Interest the Physician."

By request of the essayist the discussion was opened by the president, Dr. R. O. Beard. He was followed by Drs. Sneve, Westbrook, Nootnagel, Head, and Abbott, and by Dr. Schwyzer in closing.

On account of the lateness of the hour Dr. O'Brien's paper was laid over to appear on the May program.

J. G. Cross, M. D., Secretary, pro tem.

NEWS ITEMS

Dr. M. J. Kern, of Freeport, has moved to Albany.

Dr. L. Stomski, of Chicago, has moved to Yankton, S. D.

Dr. J. P. Ryan, of Grafton, N. D., has moved to Victoria, B. C.

Dr. Guy Walter, State University, 1906, is located at Sharon, N. D.

Dr. F. G. Swedenburg, of Rockelm, Wis., has moved to Ashland, Oregon.

Dr. T. L. Hatch, of Owatonna, is convalescent after a very severe illness.

Dr. T. W. Collinson, of Maxbass, N. D., has moved to Culbertson, Mont.

Dr. M. K. Knauff, of Two Harbors, is doing post-graduate work in Chicago.

Dr. H. E. Burdett, who has practiced in St. Paul over twenty years, died last month.

Dr. L. L. Henninger, of Blue Earth, was operated upon last month for appendicitis.

Dr. T. S. Egge, of Moorhead, who broke his leg some time ago, is able to do office work.

Dr. F. S. Kidd, a recent graduate of the Iowa University, has located at Woonsocket, S. D.

Dr. H. O. Hagen, of New Richmond, recently went to Rochester for an operation for appendicitis.

Dr. R. G. Stevens, of Heron Lake, was married last month to Miss Henrietta Dickinson, of Windom.

The local paper (The Sentinel) of Butte, N. D., says there is an opening in that place for a physician.

Dr. O. M. Porter, who has been practicing at Cumberland, Wis., since graduation, will locate at Atwater.

Dr. A. E. Holmes, of Verdon, S. D., is doing post-graduate work in Louisville, Ky., where he graduated in 1902.

Dr. Karl A. Klemer, of Minot, N. D., will spend several months in Europe, mostly in Berlin, in special study.

Work has been begun on the new addition to the Gaylord Hospital, and the old part will be thoroughly overhauled.

Dr. Ferdinand Hilbert, of Albany, whose death was recently recorded in this column, left an estate of \$50,000.

The nurses of Mankato will maintain a Bureau at Immanuel Hospital where orders may be sent for a nurse at any time.

Dr. Sarah M. Leahy, who has been a very successful practitioner at Anaconda, Mont., for over twelve years, died there last month.

The contract for the building for St. Michael's Hospital at Grand Forks has been let to Dinnie Bros., of that city. The cost will be \$75,000.

Dr. C. B. Alvord, of Huron, S. D., has decided to retire from practice. He retired on the twenty-first anniversary of his practice in Huron.

Dr. A. W. McDonald, of Courtenay, N. D., has moved to Valley City, N. D., to become associated with Dr. Platou in hospital work and general practice.

The Owatonna Hospital reports receipts for March twenty-five per cent larger than for any other month since the hospital was built. Good hospitals pay their own way.

Dr. M. L. Holm, now connected with the Chicago Board of Health, expects to locate in Wells about July 1st, and become associated with his brother, Dr. M. L. Holm.

Dr. Iver S. Benson, a recent graduate from the College of P. & S. of Chicago, has located in Jackson. Dr. Benson spent a year in a Chicago hospital as house physician.

Dr. August Kuhlman, who graduated from the State University in 1905, and is now located at Melrose, was married on the 9th inst. to Miss Anna Meyer, of Humphrey, Neb.

The Children's Home Society of Fargo, N. D., has purchased lots upon which to erect a hospital for the care of children in the Home, especially in cases of contagious diseases.

Dr. A. F. Ritchie, of Duluth, died on April 1st, at Mt. Clemens, Mich., where he had gone to take the baths. He had practiced in Duluth nearly twenty-five years, and was 52 years of age.

Dr. Howard A. LaMoure, assistant superintendent of the Minnesota Institution for the Feeble-Minded at Faribault, has been appointed superintendent of the North Dakota State Institution at Grafton, N. D.

Dr. R. C. Adams, of Utica, Penn., a recent graduate of Jefferson Medical College, has located on Bird Island. He has the offices formerly occupied by Dr. C. C. Carpenter, now practicing in Minneapolis.

Dr. Ohage, formerly Health Commissioner of St. Paul, is much in demand to deliver addresses on the health of cities. He spoke in Red Wing last month upon the invitation of the Goodhue County Medical Society.

Dr. W. W. Mayo has gone to Japan as the guest of Mr. J. J. Hill, his life-long friend. Dr. Mayo, while in Japan, will be the guest of Baron Takaki, surgeon-general of the Japanese army, who has visited the clinics at St. Mary's.

About a year ago a number of papers announced that Dr. O. M. Justice, formerly of

Rochester, had died at Los Angeles, Cal. The statement was not true. The mistake was caused by the death of a man with a similar name.

Dr. Lemon Fisher, of Dickinson, N. D., has returned to his practice after a season of post-graduate work in the East. The local paper gives him a handsome notice (pure reading advertising) for his efforts to keep up with the times. It pays.

The U. S. Civil Service Commission will hold examinations at the usual places, on June 13 and 14, of candidates to fill five vacancies in the position of medical interne in the Government Hospital at Washington, D. C., the pay is \$600 and maintenance.

Dr. F. E. Hufnail lost his suit against St. Barnabas Hospital, in Minneapolis, which he brought to collect damages sustained because he was not permitted to treat patients in the hospital. The court held that his case was not proven, and also expressed an opinion that had he proven his allegations he still would not have had a cause of action.

Dr. L. B. Baldwin, superintendent of the North Dakota Institution for the Feeble-minded, situated at Grafton, has been appointed superintendent of the N. D. Hospital for the Insane, located at Jamestown. This honor came to Dr. Baldwin wholly unsolicited. His predecessor, Dr. Dwight S. Moore, retires with a record for efficiency recognized by all who are familiar with the management of hospitals for the insane.

The politicians may not say this year that "a physician also ran." Dr. J. W. Andrews is mayor of Mankato; Dr. E. S. Muir is mayor of Winona, and by the largest majority ever given a mayor in that city; Dr. Cyrus H. Robinson is mayor of Wabasha; Dr. C. O. Wright is mayor of Luverne; Dr. W. A. Anderson is mayor of La Crosse, Wis.; and the country districts have not yet reported. All hail the medical mayors! May they be good and make good.

One "Dr." Robert F. Mautner, who is practicing in St. Paul without a license gave this advice to a patient, who was the agent of the State Board of Medical Examiners: "Eat plenty of apples, veal and chicken, and keep away from prunes. You had better let me give you a hot-air bath, also." He calls himself a "naturopathic," and he charged two dollars for the above advice. The hot-air bath would have been extra. Most of the healers of the new cults are satisfied with the hot-air bath, and, singularly enough, most of their patients are also satisfied with it.

WANTED

A regular medical practitioner to rent or manage a private hospital in a favorable, healthful, elevated location near Twin Cities and lakes. For particulars, address Favorable Prospect, care of this journal.

FOR SALE

A 16-inch Western X-Ray Coil and double-resonator high-frequency apparatus. As good as new. For sale at a bargain. Address Dr. B., care this paper.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF FEBRUARY, 1907

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF FEBRUARY, 1907

STATE INSTITUTIONS.	Total Deaths	Deaths of											
		Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Diseases of Children
Fergus Falls, Hospital for Insane.....	2	..	..	..	..	..	..	..	..	..	..	..	..
Rochester, Hospital for Insane.....	2	..	..	..	..	..	..	..	..	..	..	..	..
St. Peter, Hospital for Insane.....	2	..	..	1	..	..	..	..	..	..	..	..	..
Anoka, Asylum.....	2	..	..	..	..	..	..	..	..	..	..	..	..
Hastings, Asylum.....	0	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Deaf.....	0	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Blind.....	0	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Feeble Minded.....	1	1	..	..	..	..	..	..	..	..	..	..	..
Owatonna, School for Dependents.....	1	..	..	..	..	..	1	..	..	..	..	..	..
Stillwater, State Prison.....	0	..	..	..	..	..	..	..	..	..	..	..	..
St. Cloud, State Reformatory.....	0	..	..	..	..	..	..	..	..	..	..	..	..
Red Wing, State Training School.....	0	..	..	..	..	..	..	..	..	..	..	..	..
Minneapolis, Soldiers' Home.....	4	..	..	..	..	..	..	..	..	..	..	..	..
Totals.....	21	1	..	1	..	..	1	..	..	..	..	1	..

*No report received

REPORTED FROM 71 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF FEBRUARY, 1907

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Albert Lea.....	4,500	5,657	6	1	1												1
Anoka.....	3,769	4,053	7														
Austin.....	5,474	6,489	4														
Barnesville.....	1,326	1,566	*														
Bemidji.....	2,183	3,800	*														
Blue Earth.....	2,900	2,364	2			1											
Brainerd.....	7,524	8,134	14			6											
Chaska.....	2,165	2,085	*														
Chatfield.....	1,426	1,300	*														
Cloquet.....	3,074	6,117	*														
Crookston.....	5,359	6,794	7	1				1									
Detroit.....	2,060	2,149	3			1											1
Duluth.....	52,968	64,942	66	9		11	2	2					1	3	1	3	2
E. Grand Forks.....	2,077	2,489	*														
Ely.....	3,712	4,045	4			1											1
Eveleth.....	2,752	5,332	3														
Faribault.....	7,868	8,279	3														
Fairmont.....	3,440	2,955	0												1		
Fergus Falls.....	6,072	6,692	*														
Granite Falls.....	1,214	1,340	*														
Hastings.....	3,811	3,810	*														
Hutchinson.....	2,495	2,489	4														
Jordan.....	1,270	1,311	*														
Lake City.....	2,744	2,877	2			2											
Litchfield.....	2,280	2,415	0														
Little Falls.....	5,774	5,856	7			2								1			
Luverne.....	2,223	2,272	4	1													
Le Sueur.....	1,937	1,842	4														
Madison.....	1,336	1,604	1														
Mankato.....	10,559	10,996	10	1		1											1
Marshall.....	2,088	2,243	*														
Melrose.....	1,768	2,151	*														
Minneapolis.....	202,718	261,974	251	28	1	46	7	3			1	2	4	7	4		15
Montgomery.....	979	1,281	5	1													
Montevideo.....	2,146	2,595	2			1											
Moorhead.....	3,730	4,794	7	1		3											
Morris.....	1,934	2,003	0														
New Prague.....	1,228	1,419	1														
New Ulm.....	5,403	5,720	1														
Northfield.....	3,210	3,438	1			1											
Ortonville.....	1,247	1,612	2														
Owatonna.....	5,561	5,651	5														
Pipestone.....	2,536	2,885	2														
Red Lake Falls.....	1,885	1,797	2			1											
Red Wing.....	7,525	8,149	5														
Redwood Falls.....	1,661	1,806	0														
Rochester.....	6,843	7,233	12			2		1									1
Rushford.....	1,100	1,133	*														
St. Charles.....	1,304	1,238	*														
St. Cloud.....	8,663	9,422	12	1		2		1						1			2
St. James.....	2,607	2,320	0														
St. Paul.....	163,632	197,323	188	29	4	18	5	7	1	1				2	3		8
St. Peter.....	4,302	4,514	3														
Sauk Centre.....	2,220	2,463	1														1
Shakopee.....	2,046	2,069	2			1											
Sleepy Eye.....	2,046	2,312	2			1											
So. St. Paul.....	2,322	3,458	3			1											
Stillwater.....	12,318	12,435	11	1		1							1		1		
Thief River Falls.....	1,819	3,502	2			1											
Tower.....	1,366	1,340	*														
Tracy.....	1,911	2,015	3			1											
Virginia.....	2,962	6,056	19	1		6									1		
Wabasha.....	2,528	2,619	*														
Warren.....	1,276	1,640	1	1													
Waseca.....	3,103	2,838	*														
Waterville.....	1,260	1,383	0														
West St. Paul.....	1,830	2,100	2					1									
Willmar.....	3,409	4,040	3	1	1												
Windom.....	1,944	1,884	0														
Winona.....	19,714	20,334	20	1	2	2							1	1	1		2
Worthington.....	2,386	2,276	4	1		1											

*No report received.

REPORTED FROM 66 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF FEBRUARY, 1907

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Ada.....	1,253	1,515	2														
Adrian.....	1,258	1,184	2														
Aitkin.....	1,719	1,896	1		1												
Akeley.....		1,636	6														
Alexandria.....	2,681	3,051	1			1											
Appleton.....	1,184	1,321	*			1											
Belle Plaine.....	1,121	1,301	4			2											
Benson.....	1,525	1,766	0														
Breckenridge.....	1,282	1,850	3														
Buffalo.....	1,040	1,124	0														
Caledonia.....	1,175	1,405	*														
Canby.....	1,100	1,505	*														
Cannon Falls.....	1,239	1,460	1			1											
Cass Lake.....	546	1,062	*														
Chisholm.....		4,231	7														
Dawson.....	962	1,056	0														
Delano.....	967	1,023	*			4		1									
Fosston.....	864	1,000	2														
Frazee.....	1,000	1,146	0														
Glencoe.....	1,780	1,805	3														
Glenwood.....	1,116	1,718	*														
Graceville.....	856	1,032	*														
Grand Rapids.....	1,428	2,055	0														
Hallock.....	805	1,014	0														
Hibbing.....	2,481	6,566	9			2											
Jackson.....	1,756	1,776	*														
Janesville.....	1,254	1,205	0														
Kasson.....	1,112	1,049	2		1	1											
Kenyon.....	1,202	1,252	1			1											
Lake Crystal.....	1,215	1,231	2			1											
Lanesboro.....	1,102	1,041	*														
Long Prairie.....	1,385	1,256	*														
Madelia.....	1,272	1,290	3		1												
Milaca.....	1,204	1,319	2		1												
Mountain Lake.....		1,063	*														
North Mankato.....	939	1,129	0														
North St. Paul.....	1,110	1,400	1														
Olivia.....	970	1,019	*														
Osakis.....	917	1,056	*														
Park Rapids.....	1,313	1,719	*														
Pelican Rapids.....	1,033	1,095	*														
Perham.....	1,182	1,366	*														
Pine City.....	993	1,092	*														
Plainview.....	1,038	1,140	1														
Preston.....	1,278	1,320	0														
Princeton.....	1,319	1,704	*														
Renville.....	1,075	1,229	0														
Rush City.....	987	1,041	1			1											
Rushford.....	1,062	1,040	0														
St. Louis Park.....	1,325	1,491	1			1											
Sandstone.....	1,189	1,589	3			3											
Saulk Rapids.....	1,391	1,552	0														
Scanlon.....		1,122	1														
South Stillwater.....	1,422	1,572	1			1											
Springfield.....	1,511	1,546	1		1												
Spring Valley.....	1,770	1,573	*														
Staples.....	1,504	2,163	0														
Two Harbors.....	3,278	4,402	*														
Wadena.....	1,520	1,868	1														
Wells.....	2,017	1,814	*														
West Minneapolis.....	2,250	2,530	2			1											
Wheaton.....	1,132	1,346	*														
White Bear Lake.....	1,288	1,724	*														
Winnepago City.....	1,816	1,553	1														
Winthrop.....	813	1,031	0														
Zumbrota.....	1,119	1,129	*														
State Institutions.....			21														
Other parts of State.....	1,012,328	1,085,886	614	45	12	84	10	10	6	2	...	2	5	13	6	3	24
Total for State.....	1,751,395	1,979,658	1422	129	22	221	25	27	8	3	1	5	12	37	19	6	61

Still births and premature births, 76 (not included in above totals).

*No report received.

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INFLUENZA*

By T. W. STUMM, M. D.

ST. PAUL.

Influenza is an acute infectious disease, caused, in a large percentage of cases at least, by a definite bacillus, is extremely protean in clinical manifestations, and of sudden onset, either febrile or afebrile, occurring sporadically, endemically, and epidemically.

The disease is not a new one, but is one that has been recorded in the literature long before the bacteriologic factors in it were ever thought of. The descriptions of these old records bear so clear a resemblance to each other, even though they are thousands of miles apart, one cannot but admire the close observations, and think the same disease was present at the various places and at widely separated intervals. Since the epidemic spread over a great part of Asia, Europe, England and America, in 1889 and 1890, and the recognition by Pfeiffer, in 1892, of a bacillus which is so closely associated with the disease, we have come to look upon it in a rather clear and understanding light. The editor of *The Practitioner* has recently scanned the historical literature, and in an editorial entitled "Influenza of the Past" recalls the fact that a disease was prevalent in the twelfth century which bore many resemblances to influenza. At that time it was epidemic in Italy, Germany and Great Britain, and caused many deaths. He recalls the fact that a full description of it was recorded in 1510, and quotes the following description by Thomas Short in his "General

Chronological History of the Air, Weather, Seasons, Meteors, Etc." (London, 1749):

"The disease called coccoluche or coccolucio (because the sick wore a cap or covering close over their heads) came from the Island Melite, in Africa, into Sicily so on into Spain and Italy, from that over the Alps into Portugal, Hungary, and a great part of Germany, even to the Baltic Sea, every month shifting its situation with the wind from east to west so into France, Britain, etc. Valeriola, Pechlin, etc.

"It attacked at once and raged all over Europe, not missing a family and scarce a person. A grievous pain of the head, heaviness, difficult breathing, hoarseness, loss of strength and appetite, restlessness, wratchings from a terrible tearing cough. Presently succeeded a chilliness and so a violent cough that many were in danger of suffocation. The first days it was without spitting, but about the seventh or eighth day much viscid phlegm was spit up. Others, though fewer, spit only water and froth; when they began to spit, cough and shortness of breath will occur. None died, except some children. In some it went off with a looseness; in others by sweating. Bleeding and purging did hurt. Bole Armoniac was chiefly useful, with only lintus's pectoral troctes and decoctions. Where blood was let the disease proved malignant and pestilential, being attended with a violent, cruel, and unheard of malignity, and made bad work."

Numerous records similar to the one above,

*Read before the Ramsey County Medical Society, March 25, 1907.

some more descriptive, some less so, are still preserved. In 1847-8 an epidemic overran nearly the whole of Europe which was as severe or more so than the one in 1889-90.

The disease claims subjects of all ages, young children and the very old being oftentimes its victims, but especially do we meet it in people in the prime of life. Only a short incubation period is required for its full development, two or three days being considered its usual period. It is very probably spread by direct contact, and its occurrence in countries far apart is not quicker than the ordinary modes of travel. It took one year for the disease to travel from central Russia in 1888 to New York; then about ten or twelve days to cross the United States. Thousands came down in a day in New York. This has been observed in some of the severest outbreaks. The winter months are the ones in which it is the most widespread and of the greatest severity.

In 1892 Pfeiffer isolated a bacillus which has since claimed a close relation etiologically to influenza, and is now generally known as the Pfeiffer or bacillus influenzae. It is very short and thin rod-shaped organism, only about one-half micron in length, or one-sixteenth the diameter of a red-blood corpuscle. They stain with ordinary dyes, sometimes showing a slightly deeper stain near the ends. They are aerobic, non-motile, and do not bear spores, growing best at the body temperature, a very high or very low one stopping the growth or killing them. The media on which they are grown must contain hemoglobin, though a very small amount suffices. Davis (Journal Infectious Diseases, Jan., 1907.) has shown that one part to 180,000 will secure a good growth. The hemoglobin is usually secured from the pigeon's blood, but while this works best, the blood of other warm and cold-blooded animals can be utilized. When grown on an unfavorable media they often form chains and not infrequently change materially in appearance, though they revert to the original under proper conditions. A bacillus very closely related, morphologically, to the influenza bacillus, if not the identical one, has been isolated by Weeks from cases of conjunctivitis. Also in whooping-cough one finds a very similar rod-shaped organism, which produces the symptoms of influenza when inoculated on the nasal mucous membrane. (Davis: Journal Inf. Dis., 1906.) Wolstein (Jour. Exp. Med. VII) has shown a close relation in the agglutination properties of the influenza and whooping-cough organisms.

In cases clinically influenza another organism is not infrequently found. This is the *M. catarrhalis*, which is a large, Gram-negative di-

plococcus, first described in 1896 by Seifert. It is aerobic, stains deeply, and is not infrequently seen within the pus cells. Pfeiffer soon found that this organism bore a close relation to many so-called cases of influenza. He, in conjunction with Gohn (Zeitschrift für Klin. Med., Bd. XLIV) carefully studied and described it in this relationship.

Ofttimes one secures pure cultures of the influenza bacillus from sputum, or easily finds them by making thin smears without cultivating. Again, in similar cases clinically, this large diplococcus is found. I have seen examples of both here recently.

Most observers claim that the influenza bacillus does not produce its effects by entering the blood, but by the wide dissemination of its toxins. Cannon (Deut. Med. Woch., 1892) though was able to demonstrate it in the blood of nearly all of a large series of cases; Klein (Micro-org. & Disease, 1896) found it infrequently. Horder says it is killed soon after it enters the circulation, though he was able to demonstrate it on the valves in a case of acute endocarditis.

From the foregoing observations one can readily see that at least two organisms are to be considered in cases appearing clinically as influenza.

There is probably no disease characterized by more bizarre symptomatology. There are three distinct forms of the disease: (1) the catarrhal, (2) the gastro-intestinal, and (3) the nervous. While these are not always distinct one or the other is nearly always the predominating. They may overlap each other and sometimes they may all be present. They may occur at the same time, or they may follow one another. The onset is sudden, sometimes extremely so. For instance, not long ago I was called to see an old lady of 75 who retired at eleven o'clock one night feeling perfectly well. About two or three in the morning she awoke with a feeling of oppression, and was scarcely able to arouse the family to inform them of her condition. The next morning when I saw her she was pale, and the pulse was small and soft. She had no rise of temperature, and there were no abnormal physical findings. In a day or so the conjunctivæ became injected, and she complained of a tickling sensation in her throat. There soon followed a fairly marked degree of bronchitis with some watery and frothy expectoration. The prostration lasted for three or four weeks, though not to the same degree as at the onset. In other cases the onset is not so sudden. There may be an aching sensation over the whole body for two or three days; pain in the back is not at all uncommon. Patients will often say they

ache all over, that "their bones ache." The conjunctivæ are often slightly injected, and the eyes water. There may be an irritation in the nose, and a discharge of more or less thin, watery mucus. Attacks of sneezing are not uncommon. In this early stage vasomotor disturbances are common, and on the least exertion a profuse perspiration will break out over the whole body, or sometimes this will appear when lying quietly in bed. This is not limited to the early stage, but occurs during the whole course of the disease. The various accessory nasal sinuses are nearly always involved. Frontal headache is almost a constant symptom. This may be due to the sinus affection or to the general toxemia. I am inclined to ascribe it to the former when it comes on early in the disease; later the two factors may combine to cause it.

It seems one can almost see the process spreading from the upper air-passages. After the initial appearance the voice becomes husky, and occasionally more or less hoarseness is observed. A feeling of oppression is experienced in the chest, and a slight productive cough sets in. The sputum varies much in quantity and quality; in the beginning it is usually thin and watery; as the cough increases more air is mixed with it and as the condition progresses a varying quantity of yellowish mucopus is streaked through it. When the process is well developed the watery character disappears, though the quantity may be as much as two or three pints in twenty-four hours. It is not a rare thing to find more or less blood mixed with it. In some cases it is rosy and again streaked with it. This may cause one to think of an acute tuberculous process, though the quantity is greater than in most cases of acute pulmonary tuberculosis. We often hear the sputum described as coming out in small, yellowish masses, which float when spat into a vessel containing water. This is the nummular sputum, and is very characteristic when it occurs, though it is not seen in the early part of the affection. Smears made from the yellowish flecks show many pus cells, and long stringy mucus with more or less epithelial cells, according to the amount of exfoliation that has occurred. Sometimes one finds whole fields of the small rod-shaped bacilli. These are often side by side and end to end, like a school of fish. It has been thought such an arrangement is characteristic, but others claim that this is due only to the pulling apart of the glasses in making the smears. Usually other bacteria are also seen, both cocci and bacilli; but the influenza bacillus is so small one can scarcely confound it with the others present. In other cases there will be none of the small bacilli present, but a great many large

diplococci,—*M. catarrhalis*. These are likewise found alone or mixed with other bacteria. Recently I repeatedly examined the sputum from two cases, apparently influenza, occurring in two sisters. Sometimes these large diplococci were seen almost to the exclusion of all other bacteria. The trouble began very acutely in one case, but a little more gradually in the other. There is a history of pulmonary tuberculosis in the family, one sister having died of "quick consumption" some three or four years ago. In the first case probably thirty smears were stained for tubercle bacilli, and several in the second, but as the cases progressed and improved the search was abandoned. The progress of the disease has shown that we were not dealing with a tuberculous condition. To make the condition more deceiving here there was a considerable quantity of blood streaks through the sputum.

Occasionally the infection will localize on the upper air passage. Some time ago Dr. Schadle gave me a smear on some cotton, and asked me to examine it. This was from a membranous exudate on the epiglottis. The first thing that he noticed was a small, ulcerated area on the under surface. In twenty-four hours a membranous deposit had covered a large part of this surface. Smears from it showed the most beautiful, small, rod-shaped bacilli lying side by side. They were so small and appeared so characteristically, one did not hesitate to say they were influenza bacilli. The patient was greatly prostrated, pale, and stuporous. Her urine a few days before was normal. At this time a trace of albumin was found, and in about ten days there was considerable albumin and many granular casts which I am informed have since disappeared. In another case of Dr. Ghent's which I recently saw the soft palate and tonsils were nearly covered with a whitish exudate. This was in a young woman in whose immediate family three other members had had a similar condition. Smears from this throat showed a great many very large, deeply-staining diplococci with some large bacilli. These bacilli bore no semblance in appearance to diphtheria bacilli, and I have no doubt the diplococci were *M. catarrhalis*. They were exactly similar to the ones in the sputum of the two sisters noted above. The clinical manifestations in this woman were those of a severe influenza, as were those of the other members of the family.

The respirations in acute catarrhal influenza are not greatly accelerated, twenty-five or thirty being about an average taken from hospital charts of cases severe enough to be confined to bed for some days. If, however, the inflammation becomes severer and a pneumonia develops the respirations increase.

The physical findings in these cases show nothing characteristic of the disease. The expansion and excursion, if not complicated by some other condition, are good. If only a bronchitis is present there is nothing abnormal on percussion. In the pneumonia cases the percussion will show plainer than the auscultatory findings. One hears a vesicular breathing with a great many moist râles in the bronchitic cases. Early these are fine and heard more as a fine click at the end of inspiration, but later all kinds of coarse râles and mucous clicks are present. These have a decided sticky character, which has been noted by many observers. The consolidation sometimes comes on quickly, especially at the base of the lung, and the percussion note is that of marked dullness, yet, on auscultation, the typical bronchial breathing with the accompanying crepitant or subcrepitant râles is not found. The lobar affection, though, is rare compared to the lobular involvement. The breathing is not vesicular, but rough and harsh, though not truly bronchial. This condition may last a few days and rapidly clear up. Such a favorable termination does not always follow, though. Albutt says he has seen true cavity-formation follow without the presence of tubercle bacilli. Acute dilatation of the bronchi (bronchiectasis) has been described. In a case I examined recently there was a marked hyper-resonant note in the right infraclavicular region, which I was at a loss to explain. This was probably such a condition. At any rate the case progressed favorably, the note became more nearly normal, and the woman got well.

The temperature in all cases of influenza is a variable factor. In several catarrhal cases there is often a temperature of 101° to 104° or even 105° F. If pneumonia accompanies the condition the temperature is apt to be higher than without it. One noticeable factor here is the fitfulness of it. It rarely remains constantly high, but will fluctuate without much regularity. Just now I am caring for a baby who came down a few days ago with a red and inflamed pharynx. In two days I was able to make out one dull area in the left apex. The breathing here is harsh, not typical bronchial, though one can make out the dullness nicely. The temperature is running from 99° to 105° .

Other members of the family have recently had influenza, some of them severely. Holt says it is very common to see the adults in a family have a throat affection from influenza while the children will have bronchopneumonia. Smears from the throat of this youngster show many small, thin, rod-shaped bacilli, which stain slightly deeper at the ends, giving them the ap-

pearance, on superficial examination, of cocci. This is not an uncommon characteristic of the influenza bacillus.

In many cases the temperature will remain up a degree or so for a week or ten days, having for the first forty-eight hours run three or four degrees above normal. Not all cases, however, run a temperature. In some catarrhal forms of rather marked severity there will be from the beginning a normal temperature or only half a degree. In other than the catarrhal form there is no rise in the temperature, or a very slight one. Some of the most severe cases of prostration have an absolutely normal temperature.

The gastro-intestinal form of the disease is not so common as the catarrhal or the nervous. This may begin as the primary affection, but, as a rule, there are some prodromal symptoms referable to the respiratory system, such as a slight cough, coryza, or hoarseness, for two or three days before the onset. Not an uncommon forerunner is epistaxis. In some cases this is a marked symptom and may occur with considerable severity. When it does, one is often misled by it, for, taken with the other symptoms which are so often present, one is led to think strongly of typhoid. What can be a more misleading picture than a general malaise, slight cough, anorexia, headache, and epistaxis for the onset of typhoid? Only recently a friend of mine was discussing such a case with me. But he said, with all these things there is no rise in temperature. That of course was a significant feature and led one to think of influenza, which proved to be correct. In some cases even a rash is present which simulates very closely the roseola of typhoid. In 1905, a good many such cases were reported in an outbreak in London. (Gordon: British Medical Journal.) In other cases the gastric symptoms are the most pronounced, and for two or three days nausea and vomiting may be the chief complaint. Recently I cared for a middle-aged woman who had a frontal headache, repeated attacks of sneezing, and a slight cough for a few days, and was then suddenly taken with a pain in the stomach and vomiting. This was very annoying, and kept up in spite of all we could do for her. For forty-eight hours much greenish-yellow, bitter stuff was brought up containing considerable mucus and blood. After this she was greatly prostrated for several days, so much so that she was confined to her bed. She has now practically recovered without the least trace of a symptom referable to her stomach. A case is mentioned by Strange in which the first night there was much coughing, the second a severe

feeling of oppression about the heart, and on the third the gastric symptoms came on. This was looked upon as pretty good proof that the vagus was involved, the affection traveling gradually downward, first affecting the pulmonary branch, then the cardiac, and lastly the gastric.

The gastric symptoms, according to most observers, precede the intestinal. During this time the bowels are usually constipated, but may become loose and watery in forty-eight or seventy-two hours, or in some cases there may be a bloody discharge. Such a case is reported in Althaus' book in which the patient died. At autopsy the peritoneal covering was injected and showed petechial hemorrhages. The mucous membrane was swollen and exfoliated, but showed no ulceration.

The loss of taste is a very common symptom. This sometimes becomes very marked. Such a case I have seen this winter in an old lady of sixty-two. The condition has been present for the last two months, and is now showing some improvement.

Numerous observers have noticed the frequency of appendicitis during an influenza outbreak, and several records are in the literature in which the relation is thought to be close. Others doubt this close relationship and ascribe to the influenzal condition only a predisposing cause.

The nervous manifestations of influenza are probably more common than any other. Scarcely a case of influenza is seen which does not in some way demonstrate this. The headache at the beginning, or the more persistent one throughout the course is nearly a constant feature. Besides this, neuralgic pains throughout the body are common. These may simulate pleurisy pains and at times be very severe. Then certain peripheral nerves may be selected, and a true neuritis develop. Not infrequently one or more of the brachial nerves may be the seat of this, and a complete paralysis of the part follow it. The involvement is sometimes widespread, and peripheral neuritis is the result. This, though, is rare in comparison to a general neuritis due to alcohol or some toxine. General involvement of the sixth nerve is not very infrequent, causing deviation of the eye. Some of the most painful affections are seen as trifacial neuralgia. The cardiac nerves are occasionally involved and cause an almost unbearable feeling of oppression in the cardiac region. I have known of two such cases during the present outbreak. These were both severe and simulated angina pectoris. The heart-action in these cases is often irregular and the heart itself becomes dilated. I doubt, though, if all this is due to the nervous mechanism. The toxic action on

the heart is great, and the two factors are probably accountable for the trouble. The tones are often muffled and weak, and in some such cases a relative leak occurs; especially is this true of the mitral. True endocarditis or pericarditis is rare, though a case has already been mentioned in which the organism was cultivated from the valves in a vegetative endocarditis by Horder.

It is not uncommon to see a marked change in the general disposition of the patient while suffering from an influenzal affection. The patient becomes low-spirited and melancholic. This usually passes away in a short time, but it may persist and become an obstinate feature. Dr. Rorie (*Journal Mental Diseases*, 1901) has classified 68 cases which came under his care in the following psychoses:

- 34 males
 - 26 melancholia.
 - 3 acute mania.
 - 4 mania
 - 1 general paralysis.
- 34 females
 - 20 melancholia.
 - 4 acute mania.
 - 8 mania.
 - 1 senile mania.
 - 1 dementia.

I am of the opinion that too many nervous and mental cases are attributed to influenza, because of non-detection of other etiologic factor, yet they undoubtedly do occur after this disease.

The diagnosis of influenza is often an easy matter, especially is this so when there is an epidemic, but when the cases are only seen sporadically it is a more difficult problem. From the foregoing cases that have been cited, one sees that a few other diseases are often very closely simulated, namely, typhoid, pulmonary tuberculosis and diphtheria.

The course of the disease and a bacteriologic examination are our best guides, and should receive careful consideration. It should never be forgotten that the *M. catarrhalis*, which causes so many cases identical, clinically, to the influenza bacillus, also often causes a meningitis. Not a small percentage of meningitis is caused by this same organism, rather than the diplococcus of Weichselbaum, and when it is found in the nasal or bronchial secretions one should not forget the fact that a meningeal involvement may occur, due to the same infection. The meningeal infection is usually a continuation from the nose or one of the accessory sinuses.

Now and then a case of meningitis is also caused by the influenza bacillus.

The prognosis, so far as immediate recovery is concerned, is good, but there are few, if any, diseases which leave a patient more prone to future trouble than this one. Relapses are extremely common. The immunity that is produced, if there is any at all, is a very short one. Not uncommonly one infection will follow another in the course of a few days or weeks, or season after season the same thing is to go through with.

Of all the sequelæ which may follow, probably none is more to be held in mind than the heart involvement. The immediate affections of the heart have been briefly alluded to, but the frequency with which patients will refer a slight cardiac irregularity to some former attack of influenza is surprising. This chronic heart affection is nearly always in the form of a myocarditis. Once this is established it is always a grave affection, and especially is this true following influenza. Broadbent says he has repeatedly seen a thickening in the arteries and an increased arterial tension.

The treatment is of special importance. A certain amount can be done in the way of prophylaxis by being careful of the secretions or isolating the patient and thus avoiding a widespread dissemination of the virus. That the disease is spread from one to another there is no doubt. It is almost the rule that one member after another in the same family will contract it until they have all had it. Wolstein has recently done some work on the contagiousness of influenza. She thinks the moist secretions, rather than the dried ones, are most to be feared.

Once the disease has developed there is no way of stopping it until it has run its course. Everything that will tax the strength of the patient should be avoided. It is usually best to advise absolute rest. If the prostration is great, rest in bed should be enforced. If the patients will go to bed and spare themselves all exertion possible, the course seems to be considerably shorter than if they insist on staying up scarcely able to be around, but trying to attend to their daily affairs. A good supply of fresh air in the room is of prime importance. A draught should be avoided, but even in cold weather, if the windows are open and the patient sufficiently protected with clothing to secure comfort, it is much better. One should exercise as much care in these cases to secure fresh air as in tuberculosis.

The diet should be light, nutritious, and easily digested. In the gastro-intestinal form it is best to withhold all food save a little very hot water during the first twenty-four or forty-eight hours.

The treatment, medicinally, is largely symptomatic. In the early stages when the patient is restless and the headache very annoying, it is not infrequently necessary to employ some opiate. This I am in the habit of ordering in the form of heroin, gr. 1-12, every three to six hours, according to the severity of the affection. This may also be employed to combat the cough throughout the whole course if it is too annoying. The salicylates are of doubtful value in any form. The depression following them is great, and these patients have no strength to spare. If ordered at all salophen seems to be the most suitable. Our chief indication, especially when there is prostration, which is the rule, is to support the nervous strength. Strychnine seems to do this best. Quinine, too, is reported to have a favorable influence, and is frequently used. A capsule of quin. sulph., gr. ii., ext. nuc. vom., gr. $\frac{1}{4}$, and phenacetin, gr. iv, every four hours, forms a prescription I have repeatedly used. For the full feeling in the head due to the sinus affection and the bronchial catarrh, one can use to good advantage an inhalation of:

Menthol.

Gum camph. aa gr. xx.

Oil eucalyptus, m.x.

Creosote, oz.ss.

Creolin, q. s., oz.iii.

A teaspoonful of this mixture put into a small vessel containing very hot water to vaporize it, can be taken through a cone made of a piece of paper. The cone should be large enough to cover the nose and mouth, so as to secure the application to both the nose and bronchi. This may be used every three or four hours. It apparently has a beneficial action on the congested and swollen mucous membranes, relieving, to a considerable degree, the dull feeling in the head and quieting the irritation in the larynx and bronchi.

The convalescence is slow, and sometimes for weeks or months after a severe attack the patient feels the effects throughout the whole system.

CARCINOMA OF THE LARYNX--THE PRESENT STATUS OF ITS DIAGNOSIS, PROGNOSIS, AND TREATMENT*

By J. A. WATSON, M. D.

Professor of Laryngology, Hamline University

MINNEAPOLIS

In the last portion of the eighth and the first portion of the ninth decade of the nineteenth century the whole subject of laryngeal carcinoma was so beset with records of defeat and failure, and so enshrouded in unsolved doubts and Egyptian darkness that the most skillful, the most eminent, the most experienced were in its presence paralyzed with helplessness. Pharyngotomy, after the strictures of Paul Bruns, in 1878, was believed to be but a will o' the wisp which led only to deeper quagmires of despair and hopelessness. The frightful mutilation of laryngectomy had not been shown to offer the least compensating advantages, since, out of twenty-five reported cases performed for malignant disease prior to 1881, not one lived twelve months after operation, and only two survived as long as nine months. No treatment, palliative or operative, partial or radical, appeared to have the least influence towards staying the progress of the disease, or ameliorating to the smallest degree the sufferings of this scourge's victims. It was not in fact for some time after the death of the Kaiser Frederick, an event which focussed the attention of the whole laryngological world with greater intensity on the problem, that some rays, harbingers of a better day, were seen to struggle through the gloom. That light has increased until today we can look about us with at least the assurance of our position and the confidence that is born of such assurance. Indeed, in very many cases of laryngeal carcinoma an early diagnosis is now at least as possible, a hopeful prognosis certainly just as justifiable, and the results of intelligent and skillful treatment even more assured than in the case of carcinoma of most other regions. Many surgeons and laryngologists in many lands have contributed to this happy enlightenment. Pre-eminent among them perhaps are Butlin, Semon, and Glück.

Nearly all the progress that has been made in the last quarter century of progress has been in two directions, first in that of early diagnosis, and second in that of improved

technic. No specific has been discovered for the disease, no new surgical principle brought to light. On the contrary, all our advancement has been through the more intelligent application of principles and methods discredited and abandoned heretofore because misunderstood, misapplied, and as far as their results were concerned, misinterpreted.

Probably the first really great step in any direction that meant true progress was taken when Krishaber, in 1879, announced his belief that laryngeal carcinomata should be divided into two classes, intrinsic and extrinsic, including in the former group only those growths that arose from and were confined to the deep interior portions of the organ, viz.: the vocal cords, the false cords, or ventricular bands, the region below the glottis, and the ventricles of Morgagni, and confining the term extrinsic carcinoma to tumors originating from or involving by extension the upper and external portions, more specifically the ary-epiglottic folds, the space between the arytenoids, the epiglottis, and the posterior surface of the cricoid. The years that have elapsed since Krishaber first proposed this classification have but served to emphasize its importance, for they have taught us by accumulated experiences that while we have here to deal with conditions often morphologically and histologically identical they are nevertheless distinct in their surgical aspect, and in their prognosis separate as the poles. Nor is the reason far to seek. We need but consider the noticeable lack of lymphatic structures and the comparative independence and isolation from neighboring lymphatic structures of such as do exist in the former regions, and their abundance and free anastomosis in the latter, and then reflect upon the peculiar and characteristic tendency of carcinoma to spread and propagate itself through lymphatic channels and radicles in order to assure ourselves that this classification is no fanciful or arbitrary one, but rather is founded deeply on the rock of a most significant anatomy. The superstructure raised upon this foundation by Butlin, Semon, Glück, and their confreres has offered and still offers permanent succor to many who

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might otherwise despair, to many others at least some temporary comfort and refuge.

While it must be admitted that during these years of hope and progress we have not discovered any pathognomonic sign of laryngeal carcinoma that would enable us in every instance to discover and attack the disease at its very inception, and while we have still to deal with the three classes of cases so aptly described by Butlin as first, those in which anyone and everyone can make the diagnosis; second, those in which the better instructed and more experienced make it and others do not, and third, those in which the conditions are so obscure that no one can make the diagnosis unless the larynx is opened, and in some of which it is even then difficult to say what is the nature of the disease, we have nevertheless vastly improved our position in this particular, for we have not only ascertained the true diagnostic import of certain symptoms and appearances the value of which was formerly in doubt, but we have defined the conditions under which we may resort to hitherto questionable methods of diagnosis. We are consequently enabled to establish the diagnosis at a very much earlier average period than was formerly the case, a fact which, of itself and in all its bearings, has had an extraordinary effect upon the prognosis.

Adhering for the purposes of discussion so far as the diagnosis is concerned, to Butlin's division of cases, we are concerned in this connection not at all with the first class or that class in which anyone and everyone can make the diagnosis. Regarding the second class, the better instructed and more experienced make the diagnosis today by taking into consideration every condition, every circumstance, every symptom, every appearance that may have any bearing on the case, and assigning to each its proper importance. The following facts especially bear on the early diagnosis, and it is with the early diagnosis alone that we are here concerned.

The vast majority of cases, probably 85 per cent to 90 per cent of the total number, occur in men. The disease occurs far more frequently in the sixth decade of life than in any other, and next most frequently in the fifth decade. This would, of course, make one very sceptical as to the existence of a laryngeal carcinoma in any of the earlier decades, but it ought not to cause such a mental attitude towards a doubtful tumor occurring in later decades, since the rarity of the disease in advanced life is due largely to the rarity of advanced life itself. I have at present under observation a case in a man of seventy-two, hopelessly advanced and with great sec-

ondary growths in the cervical lymphatics on both sides.

None of the symptoms are pathognomonic. Few of them, when considered alone, are of much value from a diagnostic standpoint. Hoarseness is the most common and very commonly the earliest symptom. Pain often appears early, often also not until very late in the disease. Odynophagia may appear early if the growth is of the extrinsic variety. Expectoration, dyspnea, fetor, and cachexia occur too late as a rule to aid in the early diagnosis.

The laryngoscopic appearances, of course, vary much with the stage, character, and situation of the growth. The most common site is the vocal cord itself. The growth is very often of a whitish color, sometimes snow-white, seldom red, and usually of a warty appearance. Congestion and redness of the surrounding tissues is a suspicious circumstance, as is also an evident tendency for the growth to extend in a backward direction towards the posterior portion of the larynx. Interference with the normal mobility of the cord on the affected side is most suggestive of malignancy. Palpation of the larynx gives no information at an early stage. Adenopathy is usually present early in extrinsic carcinoma, but not until late in the intrinsic variety, or if present, is confined to the deep cervical lymphatics, which are often hard to palpate.

But in the last event, the diagnosis today, so far as it is purely clinical, must be made largely by a process of exclusion. The diseases with which it is most likely to be confounded are syphilis, tuberculosis, benign growths, and chronic laryngitis. There are others, but the limitations of this article forbid their discussion. The protean character of syphilitic disease, the frequent onset of its tertiary manifestations in middle life, and the perhaps consciously and cunningly, though sometimes unconsciously and innocently deceptive history so often related by the patient are circumstances which combine at times to make the diagnostic exclusion of syphilis a matter of great difficulty. It is known that even experienced and eminent laryngologists have been thereby deceived, resigning their patient to a death apparently inevitable and terrible, but nevertheless averted later by the simple administration of potassium iodide. When time will allow the temporary postponement of more radical means of diagnosis, a short but vigorous course of anti-syphilitic treatment should always be resorted to. Before concluding with too much certainty that one has to deal with a malignant neoplasm, and unless, indeed, the more radical means of diag-

nosis speak with no uncertain sound it may be necessary to resort to such a course of treatment after their use if it has not been tried before.

It is usually easier to exclude tuberculosis, because this disease is rarely primary in the larynx, and even when it is, close and continued observation will almost invariably disclose some constitutional disturbance, nothing more it may be than a slight and occasional elevation of temperature, and perhaps a little more than the ordinary tendency towards fatigue. In tuberculosis the mucous membranes of the throat are usually, but not always, pale. In carcinoma the mucous membrane around the lesion is nearly always somewhat congested. In early tuberculosis the infiltration is likely to be more diffuse and occupy a larger area than in early carcinoma. There are, of course, more likely to be several affected areas in the former than in the latter. It would be beside the mark to describe the typical lesions of tuberculosis as compared with the typical lesions of carcinoma, since the doubtful, difficult, and incipient cases, to which we are here confining our attention, are never typical. Finally, we may be able to demonstrate the presence of tubercle bacilli.

In the early stages it is often not possible to differentiate with certainty between benign and malignant growths, without resorting to the more radical means of diagnosis to be mentioned later. Carcinoma, however, is more common after forty, probably nine out of every ten neoplasms occurring after that time being malignant. Benign tumor very rarely occur after middle life, but are common earlier. Evidence of deep infiltration, particularly fixation of the cord on the affected side, make the diagnosis of malignancy almost certain.

Chronic laryngitis is likely to be mistaken for carcinoma only when it results in thickening of the mucous membrane, and especially in the localized thickenings known as pachydermia. This thickening, however, does not occur until the disease has lasted a long time, usually years, thus establishing a history that nearly always enables us to make a diagnosis. The diagnosis, however, is sometimes rendered difficult by the circumstance that carcinoma not infrequently occurs in larynges that have been long the seat of chronic laryngitis. Ulceration, cachexia, and glandular involvement are absent in laryngitis. While they occur in carcinoma, it is usually too late for an early diagnosis.

We are not concerned today with the question whether a consideration of any or all the circumstances which have been indicated will enable us to make the diagnosis, for

very often they will not, so much as with the question whether they will establish such a strong suspicion of malignancy as to justify us in resorting to what may be called extraordinary means of diagnosis, means of diagnosis which are somewhat radical in character, and not always free from risk. We have at our command two such means of diagnosis, first the intralaryngeal removal of a fragment for microscopic examination, and second exploratory thyrotomy. Two objections are urged against the first, viz., that we may by instrumental manipulation and consequent irritation excite a hitherto benign growth to the assumption of malignant characteristics, and that in the second place we may irritate an essentially malignant growth to the exhibition of infinitely greater malignancy. The first proposition has never been proven and is at best such an extremely doubtful one that to-day the best informed and most skillful attach to it but little importance. The second objection holds true but loses its weight if a radical operation be performed as soon as the diagnosis is established by the microscope, since the whole technic of the pathologist need occupy at most but a very few days. This means of diagnosis, however, should not be resorted to unless the patient has a clear understanding of the questions involved, and expressly consents beforehand to a radical operation should the growth prove indeed to be a carcinoma. It often happens, however, that it is mechanically impossible, owing to the shape and situation of the growth, to remove a portion intralaryngeally. There remains then the one question of exploratory thyrotomy. Against this of course the risk to life itself is urged. This risk is now, however, slight indeed, owing to improved technic and greater skill than formerly. But in any event we now believe that whatever may be the risks of either intralaryngeal removal of a fragment or of exploratory thyrotomy, they are small indeed compared with the risk of prevarication and uncertainty wherever there is a well founded suspicion of malignancy. We take the position that just as the certainty of malignancy calls for prompt and radical, though perhaps dangerous treatment, so does a well founded suspicion of malignancy call and call imperatively for prompt and radical and if necessary even somewhat dangerous measures to establish if possible its certainty. And any suspicion of malignancy is well founded, provided it exists in the mind of a well-informed, careful, and thoughtful observer, who has taken all the ordinary means at his disposal to exclude the diseases with which it might be confounded.

Without entering into the pros and cons of the matter it must be confessed that even to the

means of diagnosis just mentioned we cannot ascribe infallibility, nor indeed to any or all of the means at our command. In some cases, though very few indeed, there will still remain a doubt. In fewer still the evidence may even lead to an erroneous conclusion. These rare and extraordinary circumstances, however, have no bearing on the correctness of the principles which have been established. When confronted by them the case should invariably be treated as malignant.

It is very largely due to the principles which have been enunciated, but also of course to improved means of treatment that the prognosis has improved to such an extraordinary extent during the last quarter of a century. Whereas twenty-five or thirty years ago it was absolutely bad, indeed practically hopeless in all forms and at every stage of laryngeal cancer, it can today, in the case of early intrinsic cancer, be described by no other word than good, provided only the proper operative treatment be skillfully consummated, while so far as the extrinsic (early) form is concerned, it is at least hopeful in that, though the patient must submit to a mutilating operation, suffering can nearly always be ameliorated, death very commonly be postponed, and a comparatively comfortable existence indeed be very often indefinitely preserved. Semon can point to 85 per cent of his cases of intrinsic carcinoma operated upon by thyrotomy as cured and without any recurrence after periods varying from one year to many years. This record cannot be equalled in the case of carcinoma of any other part of the body. I am unable to state the results of the still more radical operations of hemilaryngectomy and laryngectomy in percentages, but Glück states that out of thirty-five hemilaryngectomies he had three deaths, one of heart failure, one of pneumonia, one independently of the operation, of phlegmon of the gluteal muscle; that out of twenty-two complete laryngectomies he had one death from iodoform poisoning in a man of seventy; that in all he had performed one hundred and twenty-five of these operations, and could show thirty-eight living patients who had been cured, the oldest operated on thirteen years before, and that of those already dead a number had lived, 11, 8, $6\frac{1}{2}$, $5\frac{1}{2}$, $4\frac{1}{2}$ and $3\frac{1}{2}$ years after the operation in good health, and some had died of other illnesses and not recurrences. It is true that those are the statistics of the most experienced, the most skillful, and the most eminent. None the less, however, they set the standard of our hopes, and point the results towards which we may work in anticipation of their fullest realization.

As far as treatment is concerned, its principles are now well established and its indications clear-

ly defined. All operation by the intralaryngeal route has been abandoned because its almost invariably disappointing and unfortunate results have but borne out what should perhaps have been always an obnoxious proposition, viz., that it is a mechanical impossibility to completely eradicate an infiltrating growth by any such ineffectual measures. No intralaryngeal manipulation should be attempted even for palliative purposes, except the application of cleansing agents when necessary and of local anesthetics to give relief from pain and allow the patient to swallow with some comfort. I consented, at the urgent solicitation of one of my cases who refused a palliative tracheotomy, to remove a portion of the growth intralaryngeally for the purpose of giving him breathing room. Thereafter I was obliged almost daily to tear away pieces as best I could to keep him from choking to death. Apart from the applications mentioned there is but one palliative measure to which one should have resort, and that is tracheotomy. It should always be done low down so that the wound may not soon become involved in the growth. Almost invariably it should be performed under local anesthesia.

Of measures having as their object the radical cure of the disease there are but three now worthy of a moment's consideration: 1. Subhyoid pharyngotomy; 2. thyrotomy; 3. laryngectomy, partial or total. Subhyoid pharyngotomy is restricted in its field of usefulness to growths situated on the epiglottis and ary-epiglottic folds, and its results even in those cases have been so far disappointing. Thyrotomy is suitable only for cases of intrinsic carcinoma in the early stages of growth. It is in this class of cases and by this method of treatment that the most brilliant results have been obtained. As stated above the operation should be resorted to not alone in cases where the diagnosis is positive, but as a diagnostic measure when all other means of diagnosis have failed either to allay or to confirm a well-grounded suspicion of malignancy. It is performed, after a preliminary tracheotomy and the insertion in the tracheal opening of a tampon canula, or, as some prefer, the simple lowering of the head to prevent the entrance of fluids into the bronchial tubes, by splitting the thyroid cartilage and cricothyroid membrane in the larynx with hooks. Under a good light the growth is removed by an excision so wide and deep and clean that cauterization and curettage are alike unnecessary and superfluous. The lower part of the laryngeal wound is now generally left open for a few days and the cavity of the larynx filled with gauze.

Sometimes the disease, while still confined to

one side of the larynx, will be found to have involved the cartilage to such a degree or to be otherwise so extensive that its eradication cannot be insured except by the removal of one wing of the thyroid and perhaps the corresponding arytenoid and half cricoid, constituting the operations of partial laryngectomy and hemi-laryngectomy. Here also, a preliminary tracheotomy is necessary. The skin and soft parts are separated from the diseased side of the larynx in the form of a flap, the thyrohyoid membrane, the thyroid cartilage, the cricothyroid membrane and the cricoid ring divided in the median line in front, the cricoid plate divided in the median line behind, and the diseased half removed. The cavity is packed, the flap replaced and the wound closed except below. Total laryngectomy should be performed in all cases of extrinsic carcinoma, whether primarily extrinsic or extrinsic by extension from an originally intrinsic growth, provided the disease is not too far advanced and the glandular involvement not too extensive to justify

a reasonable hope of extirpation. We have, however, no definite landmark that would clearly indicate to us when the boundary line of reasonable hope has been passed. The individual surgeon must see to it that his enthusiasm is tempered by experience, his courage justified by skill. It should be remembered, however, that even where there is very little hope of a permanent cure, the operation may sometimes be performed for the purpose of prolonging life and rendering it more comfortable.

Modern laryngectomy is a great improvement over the older laryngectomy operations, especially in the one feature that the trachea is now cut off from all communication with the laryngectomy wound and the food tract by being stitched into an opening in the skin of the episternal notch, a bridge of skin being thus left between the wound above and the open trachea below. This stitching of the trachea into its permanent setting is done as the preliminary part of the operation, before the extirpation of the larynx.

ECTOPIC PREGNANCY*

BY A. E. BENJAMIN, M. D.

MINNEAPOLIS

Until quite recently the etiology and pathology of ectopic pregnancy were misunderstood. The symptoms were misinterpreted, and altogether the condition seemed quite hopeless. Hundreds of human lives were lost annually which could now be saved by timely surgical intervention.

Bernutz and Goupil, Frenchmen, were the first to recognize the pathology of this abnormality, and to properly interpret the symptoms. Utilizing the post-mortem researches of these two men and the clinical observations of Parry, Tate classified the various types and symptoms, and demonstrated the utility and rationale of early surgical treatment, and became thereby one of the greatest benefactors of science and humanity.

Frequency.—It has been estimated that the proportion of ectopic to normal pregnancies is about 1 to 500. Formad found 35 in 3,500 general autopsies. Winckel saw but 16 to 2,200 births, and Bandl of Vienna 3 to 60,000. I am quite certain that we shall later conclude that 1 to 500 is too small a proportion. A number, undoubtedly, go unrecognized, but when the knowledge of the physician increases and more

careful observations are made, a larger number of cases will be reported.

Varieties.—Ectopic pregnancy may be (1) interstitial, (2) isthmic, (3) ampullar, (4) infundibular, (5) tuboövarian, or (6) ovarian. The first and last varieties are very rare, and the occurrence of the last is disputed by a number of observers. From a practical standpoint all ectopic pregnancies can be regarded as tubal. The above varieties are nearly all primary ectopic pregnancies, or the original implantation of the fertilized ovum.

The ampullar variety is most common, as this portion of the tube furnishes a larger cavity in which the ovum may lodge. The tuboövarian type may be an outgrowth of the ampullar variety when the fimbriæ have grown to the ovary.

Etiology.—It seems probable that a congenital defect of the tube is partly responsible for this malady (Herzog). Any obstruction of the tube which hinders the progress of the fertilized ovum, along this canal, seems to favor its production, e. g., polypi, a tortuous or elongated tube become hypertrophied, swollen, and turgid, constrictions from disease, flexions, bends, a diverticulum, or depression allowing the ovum

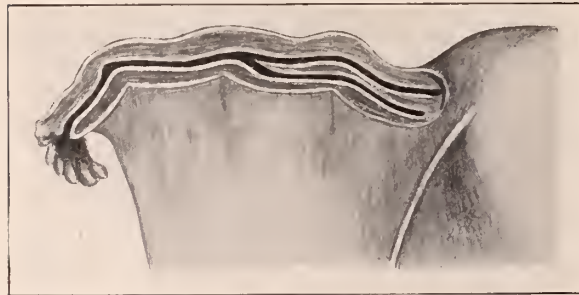
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to be entrapped, are all potent factors worthy of consideration.

An unusually large ovum or one occurring in case of twins may be blocked in its course because of the limited size of the canal. I believe it is possible for an impregnated ovum from the opposite side, to develop to such a degree as not to readily pass down the narrow tube, and thus become implanted. C. P. Noble places infection of a mild type as a most frequent cause of ectopic pregnancy. In most of my own cases a previous disease of the tubes existed.

Course of the Gestation.—In the beginning the tube becomes hypertrophied, swollen, and turgid. A closure of the ostium abdominale occurs about the eighth week. As the ovum develops the tube becomes thin and distended, and its walls greatly weakened by the penetration of the chorionic villi.

Ectopic pregnancy may end (1) in tubal abortion, (2) in rupture of the tube, (3) in death of the fetus and other products of conception before rupture, or (4) in a possible further growth of the ovum after primary rupture. Tubal



1. Diverticulum of tube.—Dudley.

abortion is more likely to occur in the ampullar form and before the eighth week. A part or the whole of the products of conception is expelled from the end of the tube into the abdominal cavity. I have specimens here which you will see illustrate this fact.

Hemorrhage may be slight or severe when the ovum is partially expelled from the tube. Severe and repeated hemorrhages are more likely to occur. A hematosalpinx results if the fimbriated extremity is closed.

The fetus always perishes in tubal abortion, and is absorbed or digested, together with the membranes and blood, if not in too great quantities or when infection does not result. This accounts for the inability to find the fetus or the membranes in many cases at operation. A rupture of the tube is a most common result in tubal pregnancy, and occurs at about the seventh week. It may come on without any exciting cause, or it may follow exertion, falls,

blows, injuries, straining, violent exercise, etc.

Rupture takes place (a) into the abdominal cavity, (b) between the folds of the broad ligament, or (c) into the uterus. A rupture into the abdominal cavity can occur in the ampullar, isthmic, or interstitial forms.

If the placental attachment of the fetus remains intact it may continue to develop in its new abode. I have two specimens here which are examples of this condition, one with a rupture through the tube into the abdominal cavity in the ampullar variety with the placental attachment still quite firm in the tube; another with a rupture through the fimbriated extremity into the abdominal cavity with the placenta firmly attached inside the tube and a three and one-half months' fetus, with cord attachment, in the abdominal cavity.

A hematoma results when the rupture occurs into the broad ligament; then the hemorrhage is not so severe or so dangerous.

Cases on record where an interstitial pregnancy has ended in a living child being delivered from the uterus by a gradual crowding of the ovum into the uterine cavity.



2. The dots show various locations of tubal pregnancies.—Ashton.

A tubal mole results when there is an early hemorrhage into the membranes of the fetus. This mole may remain in the tube for a long time. It is a source of danger from hemorrhage in its early history.

It is certainly a rare chance for the fetus to live until the end of the gestation period. When it does so live spurious labor and death of the fetus and the membranes are inevitable. A late death of the fetus may end in the production of a lithopedion or a mummification.

The fetus may be encapsulated for years. Only a skeleton may remain, which is likely to ulcerate through the bladder, intestine, or abdominal wall; or when maceration and infection occurs, pus and the decomposed tissue are also expelled through this artificial opening.

At best the fetus is not well nourished, and is undeveloped, death being almost the inevitable result in a few days, even though delivered by

surgical means at the end of the period of gestation.

Symptoms.—The symptoms of ectopic pregnancy are dependent upon the stage of development of the ovum; that is, whether—

1. Before primary rupture or abortion.
2. At the time of rupture or abortion.
3. After rupture or abortion and death of the fetus and membranes or a continued growth of the fetus, with or without rupture.

The early symptoms are usually those of a normal gestation with the addition of colicky, recurring, hypogastric, and inguinal pains in some instances. In other cases nothing unusual is noticed but a faintness or a sudden severe pain with symptoms of hemorrhage and shock.

In another class there is the return of the menses between the first and second months, or later. The flow is altered in character, being



3. Rupture of tubal pregnancy showing the three directions in which a rupture may take place.—Ashton.

a dirty brown, stringy, and more or less profuse perhaps, with the expulsion of the decidua vera in the form of shreds. In some instances the flow is very profuse, resembling a hemorrhage, as from a miscarriage.

A fatal hemorrhage is possible when the rupture occurs in the interstitial variety or in the other varieties, if it occurs suddenly, unless an operation is performed at once.

The hemorrhage, if rapid and profuse, is likely soon to prove fatal. Through the opening in the tube the ovum and its membranes are expelled. When the tubal walls give way gradually the hemorrhage is slow and oozing in character. Hemorrhage and pain may cease for a time, but later a second or third attack is experienced, which may end in death.

The pains during rupture are acute, agonizing, excruciating, and often burning in character. I have noticed the latter symptom where a hemorrhage collects low down and surrounds the rectum. The pains are felt in the lower abdomen and in the affected side of the pelvis. Collapse may quickly follow, with all the symptoms attending the sudden loss of blood. Nausea and

vomiting, diarrhea, delirium, and convulsions are not unusual symptoms. The pains are not so severe in tubal abortion as when a rupture takes place.

The symptoms can range from the simple, mild form to the gravest type. They are dependent upon the location of the pregnancy and the point of rupture. When there is a partial abortion or incomplete rupture, a few days of comparative comfort follow. A third or fourth attack may be experienced before the symptoms are of sufficient importance to demand the counsel of a physician.

The tearing apart of the folds of the broad ligament, due to the hemorrhage in this locality, is accompanied by intense pain.

Should the fetus pass on to maturity amenor-



4. Ampullar pregnancy. Fimbriated extremity of the tube closed by adhesions, which render tubal pregnancy impossible and rupture inevitable. Observe a decidua of pregnancy which has developed in the endometrium.

rhea is not a constant symptom. The abdomen is not symmetrical. The uterus enlarges, but not to the normal size. The other symptoms are those of a normal gestation.

Diagnosis.—Diagnosis, excepting a tentative one, is rarely made before abortion or rupture occurs, after which the symptoms are quite frequently vague and puzzling. My own observations lead me to believe that over seventy-five per cent of the cases of ectopic pregnancy occur on the right side, and it is therefore frequently confounded with appendicitis in atypical cases. The reason for this greater proportion of right-sided ectopic pregnancy I am unable to give.

A diagnosis of a miscarriage or tubal and ovarian disease is the usual mistake. The microscopic examination of the decidua, and the history, together with the symptoms, will guide us aright in nearly all cases. Personally, I have operated upon two cases in which a diagnosis of ectopic pregnancy was not made previous to the operation, one with a diagnosis of appendicitis and another of diseased tubes and ovaries. A

preliminary curettage was not done, however, in these cases.

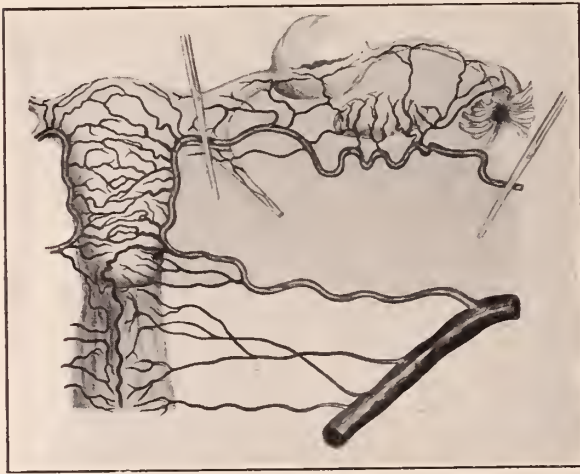
Where there is a continual oozing of blood into the abdominal cavity the temperature may rise for a time, with a normal pulse, until severe hemorrhage occurs; then the temperature drops below normal, with rapid, feeble pulse, and, later, another rise in temperature. The last rise in temperature may be due to an infection. I have operated upon two cases where pronounced symptoms of infection were present.

A physical examination made during the first two months may determine but little more than a condition resembling a normal pregnancy; the uterus, however, gives no signs of fluctuation.

A distended tube can be felt when there is not too much tenderness. It is oblong, boggy, or soft.

When a rupture has occurred a lateral, large, tense, elastic mass may be felt, if the hemorrhage is in the broad ligaments.

The effused blood encroaches upon all the abdominal and pelvic organs, often constricting the rectum. A fullness in the *cul de sac*, with or without limiting walls, would probably indicate that the hemorrhage was into the abdomen. The mass is then of a doughy consistency due to



5. Forceps clamping the ovarian and uterine arteries.

clotting. The intestines, peritoneum and other pelvic tissues form the limiting membranes of a walled-off quantity of blood.

This is very apt to be confounded with other forms of tubal diseases, for in tubal diseases there is often a changed, irregular menstrual flow and other like symptoms. The possibility of a normal and ectopic pregnancy coexisting should not be forgotten. A double ectopic pregnancy is also possible. I have operated upon one probable case of this sort.

Treatment.—The treatment is an operation, and this is the only treatment considered by any physician who has at heart the welfare of his patient or the reputation of the profession.

Shante has shown that the mortality of ectopic pregnancy when uninterfered with is 65 per cent against 6 per cent in cases treated surgically. The safety of the mother should be our sole object, and the child has no claim whatsoever to be considered, even in those rare cases when it has gone nearly to maturity.

Rarely does a surgeon have an opportunity to operate before rupture. The rule should be to operate as soon as the diagnosis is made in early cases, even in the presence of shock or hemorrhage, if the patient's condition will possibly warrant it. When a rupture occurs it should be remembered that the condition is that of hemorrhage, and the sooner the possible loss of more blood is avoided the sooner will the patient's condition improve.

I recently operated upon a case in which the loss of blood was very great. The patient was almost exsanguinated, with an almost imperceptible pulse of 140-160. In this patient such a mass of adhesions existed in the pelvis that it was impossible to do more than ligate the broad ligaments and vessels. The abdomen was distended, and the intestines adherent and filled with gas. The woman was fat, with thick abdominal walls. This procedure stopped the bleeding and saved her life. A later operation cleaned up the pelvis.

Time should be economized as much as possible during the operation. Fineness of technic is not the essential factor. All preparations should be made before beginning the anesthetic. Rough handling or scrubbing of the abdomen should be avoided, and as little ether is to be administered as is consistent with the relief of conscious suffering.

Hypodermoclysis should be begun at the time of the operation, not before. Saline enemas may be continued after the operation. The patient should be in the Trendelenberg position during the operation, and in desperate cases the foot of the bed should be elevated afterwards.

The first thing to be done after the abdomen is opened, is to clamp the inner border of the broad ligament, including the uterine and ovarian arteries on the affected side, and next the outer edge of the broad ligament and ovarian artery, thereby controlling further hemorrhage. The blood-clots and debris should be removed, and in some instances the abdomen flushed out, although I believe this is an unnecessary procedure and often a waste of time. Drainage should be established only where a septic condition exists.

The operation should consist in the removal of the tube, and if the ovary on the affected side is greatly diseased, it too should be extirpated. If the condition is brought about because of some obstruction or abnormal narrowing of the lumen of the tube, that organ, if allowed to remain, would be a serious menace to life as long as it remained, and to empty the tube of its contents at the time of operation and sew the rent up again would be unwarranted and unwise surgery, because of the possible repetition of the same condition. Dr. Bovee operated

upon one case four times because he left the tube.

In most instances, if the fetus has survived the fifth month, it has passed through the cycle of rupture and hemorrhage, or it is probable it will not; therefore the immediate danger is greatly decreased.

Spurious labor and death of the fetus should be followed in four to six weeks by a laparotomy; then the removal of the placenta will be an easier task if undertaken before active circulation has ceased in this tissue.

THE USE OF THE X-RAY IN FRACTURES*

By J. M. LEWIS, M. D.

MINNEAPOLIS

It is my purpose to consider at this time a few complications which cause, and the best means at our command, to prevent, unfavorable results, in complete, traumatic fractures of healthy tubular bones.

Whether bones are broken by great or slight force, applied directly or indirectly; whether the fracture is transverse, oblique, comminuted, or compound, the degree of displacement and the damage to the surrounding structures are the important questions.

The symptoms, both objective and subjective, are at times misleading and unreliable. The degree of displacement can not always be determined by the degree of deformity. The amount of injury to the soft tissues cannot be estimated by the degree of displacement or the character of the fracture.

Bad results are due largely to three causes:

1. Injury to blood-vessels.
2. Injury to nerves.
3. Lack of proper replacement.

When an artery, like the anterior tibial, is destroyed in oblique fractures of the leg by indirect force, we are sure to get great pain with discoloration, blisters, and sloughing of the tissues dependent on that vessel for nourishment.

Destruction of a nerve, like the great sciatic, in fractures of the femur caused by great direct force, will be followed by loss of sensation, anemia, and dry gangrene, progressing nearly to the knee.

In cases where proper replacement is impossible, owing to intervening tissues or to the position of the fragments, or to other causes, non-union, or union with large callus-formation and

deformity, will result. This, I believe, should never happen, because with the x-rays we are able to study the pathology of fractures in a scientific way.

It is not my aim to discuss the apparatus or the technic, but to urge the advancement of this method.

It has been said that x-ray pictures exaggerate, and often show loss of continuity, when no fracture exists; also that fractures are so obscured that they cannot be seen. With all such statements I wish to take issue. Roentgen rays will not furnish comprehension. A defective plate, a wrong position of the tube, or an object too far from the plate, may result in a misleading picture, but such mistakes should not condemn the method.

These pictures are not photographs, but shadow pictures, made, not by reflected light, but by rays of light passing through and showing different densities of the subject between the tube and the plate. The rays emanate and spread from a small point; therefore the shadow of the object spreads, and its density decreases, in proportion to the distance from the plate, and the distance from the direct rays of light.

An anterior view of the elbow-joint with the arm extended might lead the inexperienced to believe that the olecranon was fractured, when a lateral view of the same would show it to be normal.

If a fracture exists there is less resistance at that point, and the shadow must be lighter. It is my rule to always take two views of a bone, one anterior and one lateral. I believe in this way we can make a positive diagnosis in every case of fracture, and I believe it is the only

*Read before the Hennepin County Medical Society March 5, 1907.

means affording a safe guide to the proper operation upon injured bones.

A few surgeons have successfully sutured arteries. Murphy states that when more than three-eighths of an artery is involved, we should exsect and invaginate the central end into the distal end, and hold it by sutures. To what extent this operation can aid in the treatment

thetised, an attempt to replace the fracture should be made, and suitable fixation applied.

After some of the swelling and the acute symptoms have subsided, even as late as the tenth



Fig. 1. This radiograph shows that slight deformity of the arm exists at the point of fracture, but great displacement of the bone, impossible of replacement without excision.

of fractures with injured arteries I think remains largely for the future to determine.

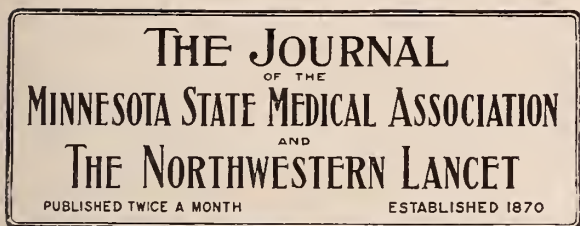
Always examine at once the pulse at the wrist and ankle in order to ascertain if the artery has been injured. Also examine carefully the sensation of the distal part of the fractured limb. If total loss of sensation is found in the parts supplied by a nerve, which lies close to the point of fracture, an operation should be made as soon as possible, and the nerve sutured after excision of the injured portion. After the above points have been considered, and the patient anes-



Fig. 2. View of the arm shown in Fig. 1 two months after excision of the ulna.

or eleventh day, a radiograph should be made, and if the position of the fragments is not satisfactory the bones should be freely exposed and the ends approximated, by excision if necessary, and sutured, using only absorbable sutures, and the limb immobilized. The final corrections, with or without operations, can be made as late as the fourteenth day.

I believe bad results are always due to one of the three causes I have mentioned, and I believe the intelligent use of the x-rays will completely overcome the most frequent, and save both physician and patient from disappointment.



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MAY 1, 1907

EXPERT TESTIMONY

Assemblyman Moreland has introduced a bill in the New York legislature which limits expert testimony of alienists in all murder trials where insanity is pleaded as a defense, and it prevents the asking of hypothetical questions in any criminal case with such defense.

The introduction of this bill is evidently to prohibit the employment of experts who receive enormous fees and who seem prone to testify for the side which employs them. The recent murder trial in New York will undoubtedly pave the way for the reorganization of the methods of the expert witness. If there are similar bills introduced in other states much good will come from the agitation of the subject, even though the old methods prevail. The medical expert who attempts to give an opinion in an insanity case is greatly handicapped by the old legal idea of what constitutes insanity, and the absurd idea as to the appreciation of right and wrong as a safe guide to a definition of responsibility of the insane.

The courts, juries, and the public are dis-

witness, and it is generally conceded that when two or more experts are willing to testify on opposing sides in a criminal case that all expert opinions will be cast aside as immaterial and misleading. The jury will decide for themselves on common-sense grounds. It is high time that the medical profession waked up and asked for relief and a complete revision of the present system. If every state medical society and the American Medical Association would ask for the appointment of medical experts by the court, to make their report to the court and to exclude all other so-called expert witnesses, trials would be shortened, many would never come to publicity, and more general satisfaction would prevail. The legal profession would probably object to any such plan on the claim that their clients were entitled to protection from all standpoints, and that it would deprive them of their rights which now exist under our present constitution. It may be necessary to change the laws to conform to the advanced views of experts, and it will certainly be necessary to alter the 300-year-old idea of what shall define insanity and responsibility.

Until some radical changes are made it will be humiliating for any self-respecting alienist to offer his opinion, however sincere his endeavors and scientific his conclusions and deductions may be.

If there are many repetitions of trials similar to the Thaw case it will not be long before some legislator will attempt to regulate the whole matter in a way that will be wholly absurd.

Medical men must initiate the movement for the preservation of their own self-respect, and for the advancement of honest, scientific opinions.

THE HENNEPIN COUNTY MEDICAL SOCIETY AND DR. G. FRANK.

LYDSTON

The annual banquet given at the West Hotel at which Dr. G. Frank Lydston, of Chicago, was the speaker, passed off in the usual manner. The attendance was rather less than usual, only 120 in all.

Dr. Lydston is a fluent speaker, a good story-teller, and a practical surgeon. His address was largely on the male urethra. He showed many drawings, made by himself, which illustrated the repair of diseased tracts, the formation of a new urethra, and the reconstruction of defective channels in hypospadias.

The methods outlined by Dr. Lydston were

originated or perfected by him, and showed conclusively how a new canal may be made without injury to the mucous membrane by using the redundant tissue and skin for flaps. His illustrations were explanatory for every detail of his operations, and emphasized the necessity of extreme care in all plastic operations about the urethra.

The majority of his operations were done under cocaine anesthesia. He warned his hearers that there are dangers to be avoided, mainly of an incidental character. He reported two cases in which an interstitial nephritis suddenly, or perhaps coincidentally, lighted up, and the patients died from uremia in spite of the employment of cocaine alone.

Dr. Lydston reported his work for the first time, and as he talked without notes, a paper with original drawings may be expected in the near future.

Dr. Lydston believes in the surgery of the syphilitic, and he urged the necessity of the removal of suspicious growths from the genitalia, in both male and female. Even in those who were syphilized it was advisable to remove all new irritative lesions by the knife, rather than to wait for the uncertain action of mercury or the iodides.

He advocated the use of the knife in gummas of the brain, if their location can be definitely determined. His position on this point was not new, as he only corroborated what other surgeons have already said on the subject.

It is rather difficult to appreciate how far the surgeon may go in the removal of suspected lesions. A true infection becomes very general in a short time, yet the possibilities of reducing dangerous complications by surgery on the syphilitic subject are worthy of the most careful consideration.

Our view-point of syphilis is rather hazy, and until we can demonstrate clearly the bacillus of this disease, medical or surgical treatment will continue to occupy the same plane as it does to-day. It would seem rational to endeavor, in every possible way, to reduce the by-paths for the virus and to prevent deformities and growths by the early use of the knife.

DO IT NOW

The secretary of the State Medical Association is very desirous of having the Roster, printed in this issue, as complete and correct as it can be made. The proper spelling of names and the proper initials cannot be obtained from

lists hastily made out by the secretaries of county societies, and many of them written so poorly that no one can read them.

We earnestly urge every member of the Association to look over the Roster, and notify Dr. McDavitt of any errors found in it.

If any member fails to renew *THE JOURNAL-LANCET* he should notify this office. All members are entitled to the paper.

AN HONORED PHYSICIAN—DR.

WIMER.

It is a constant source of pride to *THE JOURNAL-LANCET* to read in many an ably edited country paper notices of the lives of deceased physicians showing how highly medical men of integrity are honored by their fellow citizens. About the only time men turn aside to give expression to sentiments formed in their daily contact with those who serve is the time of death. While we regret that this is true, we should not forget that the faithful physician may know that this feeling is ever entertained of him, even though it is not expressed until emphasis is laid upon it by his removal by the hand that he strives to stay when raised against others.

We wish our columns were long enough to record the kind things said of every physician who has won this appreciation in the community he has served; but such a record is, of course, impossible.

These remarks are suggested by the recent death of Dr. Thomas Homer Wimer, of Warren, who died last month in the very prime of life, and whose death was no doubt due to a devotion to his professional duties which would not permit him to take needed rest at a time when his life might have been saved.

Dr. Wimer was a highly useful man, not only as a physician possessed of unusual professional qualifications, but as a citizen, a father, and a husband. He was a consistent Christian gentleman, and his usefulness was fittingly expressed in the columns of Marshall's leading newspaper.

NEWS ITEMS

Dr. O. W. Holcomb, of St. Paul, has located in Erskine.

Dr. A. F. Moynihan, of Sauk Center, is sick in a St. Paul hospital.

Dr. John A. Rott has moved from Roscoe, S. D., to Eureka, S. D.

Dr. J. P. Freeman, of Glenville, is in Chicago doing post-graduate work.

Dr. James C. Tyvand, of Milton, N. D., has moved to Cheyenne Mills, Colorado.

Dr. H. S. Fairall and Miss Edith Callahan, of Deer River, were married last month.

Dr. A. W. McDonald has moved from Courteney, N. D., to Valley City, in the same state.

Dr. O. H. Hegge, of Austin, has gone to Chicago for a special course in the Chicago Polyclinic.

Dr. J. F. Brabec, of Perham, was operated upon last month in a St. Paul hospital for a mastoid abscess.

Work has been begun on the new addition to the Wabasha hospital. The addition will be 40x43 feet in size.

Dr. Archibald L. McDonald, of Grand Forks, N. D., was married last month to Miss Grace Morehouse, of the same place.

Dr. J. E. Carman has moved from Brooks to Detroit, and will be associated with his father, now practicing at Detroit.

Dr. Witherstine's bill for a state board of examiners for nurses has become a law. One of the examiners must be a physician.

Dr. D. H. Angus, of Prosser, Washington, has purchased the Riverside Hotel at that place and will convert it into a sanitarium.

Dr. A. L. Hammerel, assistant physician at the state prison at Stillwater, has resigned, and will go to Glendive, Mont., to practice.

Dr. C. D. Harrington has returned to Minneapolis and resumed practice after an absence of a year. He has offices in the Lindley block.

Dr. C. W. Bray has changed the name of his hospital, which bore his own name, to the name of the town in which it is located, Biwabik.

Dr. Thomas H. Wimer, of Marshall, died last month. Further notice of the life of this earnest physician will be found in our editorial columns.

The Upper Mississippi Medical Society met at Brainerd on April 9. Several papers were read, and a clinic was given at St. Joseph's Hospital.

Dr. F. J. Cressy, of Granite Falls, was injured in a railroad accident last month, and was taken to the hospital. He was not seriously hurt.

Dr. Jas. H. Beaty, of St. Cloud, will leave for Europe next month, and will spend several months in Germany in special study. His wife will accompany him.

The Crow River Valley Medical Society met last month at Benson. Dr. Robertson, of Litchfield, and Drs. Mann and Geist, of Minneapolis, read papers.

Dr. Raymond P. Robbins died in Portland, Oregon, on April 16. Dr. Robbins graduated from the state university in 1904. He formerly lived in Sauk Center.

Dr. E. W. Bayley, of Sleepy Eye, has received his commission as physician and surgeon in the U. S. army, and will soon be assigned to his post of duty.

The Park Region District Society held its quarterly meeting at Fergus Falls on April 18. Papers were read by Dr. W. W. Drought, Dr. A. D. Haskell, and Dr. A. E. Hensel.

Dr. E. B. Crowell, of Minneapolis, died last month. Dr. Crowell was a graduate of the Eclectic Medical Institute, of Cincinnati, and had practiced in Minneapolis since 1902.

Dr. S. W. Mowers, assistant surgeon in the N. P. Hospital, at Brainerd, has been appointed chief surgeon of the N. P. Hospital, of Tacoma, Wash., and will soon leave for his new field.

The Drs. Reinhardt, the St. Paul advertising doctors, have so far successfully resisted attempts to take them to Wisconsin where they are wanted to answer a charge for conspiracy to defraud the public.

We noticed in our last issue a change in the two hospitals at Alexandria. St. Luke's Hospital, which is owned and managed by Miss Erica Bach, a graduate nurse, is now open to all physicians of Alexandria and the surrounding country.

The physicians of Crookston propose to hold informal monthly meetings to discuss the daily problems that come into a physician's practice and life, to the end that they may be mutually beneficial and may avoid all friction in the profession.

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DISTRICT AND COUNTY ROSTER

Minnesota State Medical Association

APRIL, 1907

FIRST DISTRICT

COUNCILOR, E. A. HENSEL.....Alexandria

Clay-Becker County Medical Society

Regular Meetings, last Monday in January, April, July and October

Annual meeting in January

PRESIDENT
Darrow, Daniel C.....Moorhead
SECRETARY
Barton, E. R.....Frazee
Aborn, Wm. H.....Hawley
Alexander, F. H.....Barnesville
Awty, W. J.....Moorhead

Carman, J. B.....Detroit
Egge, T. S.....Moorhead
Frasier, G. W.....Detroit
Helmark, O. E.....Hawley
Hoit, Edward E.....Detroit
Humphrey, E. W.....Moorhead
Jones, S. S.....Frazee

Kaess, Andrew J.....Moorhead
Meighen, J. W.....Ulen
Ogden, Emma K.....Detroit
Smith, M. B.....Lake Park
Smith, S. W.....Ponsford
Weeks, L. C.....Detroit

Park Region District and County Medical Society

Wilkins, Otter Tail, Douglas, and Grant Counties

Regular meetings, second Wednesday in January, April, July and October.

Annual meeting in January

PRESIDENT
Serkland, J. C.....Rothsay
SECRETARY
Haugan, O. M.....Fergus Falls
Armstrong, L. W.....Breckenridge
Baker, A. C.....Fergus Falls
Berthold, J. L.....Perham
Boyd, H. J.....Alexandria
Brabec, F. J.....Perham
Burnap, W. L.....Pelican Rapids
Cleveland, H. E.....Osakis
Cooper, D. J.....Dent

Cowing, Phil. G.....Ashby
Davis, L. A.....Dalton
Duncan, W. T.....Fergus Falls
Freeborn, J. A.....Fergus Falls
Gilkinson, A. J.....Osakis
Haskell, A. D.....Carlos
Haugan, G. T.....Battle Lake
Helmark, C. B.....Battle Lake
Hensel, E. A.....Alexandria
Kittleson, T. N.....Fergus Falls
McLean, T. N.....Fergus Falls
Mathiesen, G. B.....Evansville

Meckstroth, C. W.....Brandon
Muus, Peter H.....Kensington
Powers, F. W.....Barrett
Quitmeyer, O. C.....Parkers Prairie
Randall, A. M.....Underwood
Schoonmaker, E. C.....Perham
Sherping, O. Th.....Fergus Falls
Truax, W. E.....Breckenridge
Vigen, J. G.....Fergus Falls
Vinje, Syver.....Henning

Red River Valley Medical Society

Polk, Marshall, Kittson, Roseau, and Norman Counties

Regular meetings, fourth Tuesday in January, April, July and October

Annual meeting in January

PRESIDENT
Kjelland, J. S.....Crookston
SECRETARY
Hodgson, H. H.....Crookston
Bratrud, Theodore.....Warren
Dampier, C. E.....Crookston
Denniston, C. H.....Crookston
Dunlop, A. H.....Crookston
Farley, F. X.....Crookston
Gambell, S. H.....Thief River Falls
Hanson, M.....Hendrum

Haugseth, Enoch.....Twin Valley
Hendrickson, J. F.....Fertile
Holte, H.....Crookston
Lemieux, Israel.....Red Lake Falls
Lockwood, M. M.....Hallowell
Lyman, F. V.....Beltrami
Melby, O. F.....Warren
Mitchell, F.....Euclid
Morley, G. A.....Crookston
Muir, J. B.....Roseau
Nelson, A.....Fertile

Neraal, P. O.....McIntosh
Norin, F. L.....Roseau
Ohnstad, J.....McIntosh
Olson, O. H.....Erskine
Risjord, J. N.....Fertile
Shaleen, Arthur W.....Hallowell
Slippert, H.....Fosston
Smith, H. W.....Crookston
Wattam, G. S.....Warren
Watson, N. M.....Red Lake Falls
Wilkinson, J. C.....Red Lake Falls

West Central Minnesota Medical Society

Pope, Stevens, Traverse, and Big Stone Counties

Regular meetings, second Wednesday in January, April, July and October

Annual meeting in January

PRESIDENT
Oliver, C. I.....Graceville
SECRETARY
Hulburt, H. L.....Morris
Bolsta, Charles.....Ortonville
Caine, C. E.....Morris

Christenson, C. R.....Starbuck
Fjelstad, C. A.....Glenwood
Fogarty, C. W.....Brown Valley
Gibbon, L. L.....Lowry
Karn, J.....Ortonville
Leuty, Amos.....Morris

Linde, Herman.....Cyrus
Magnusson, H. V.....Clinton
Nuckolls, G. W.....Minneapolis
Randall, B. M.....Graceville
Weir, J. D.....Beardsley
Whittemore, J. G.....Donnelly

SECOND DISTRICT

COUNCILOR, WALTER COURTNEY.....Brainerd

Aitkin County Medical Society

Regular meetings, first Tuesday in each month

Annual meeting in October

PRESIDENT
Graves, Carlton.....Aitkin

SECRETARY
George, James W.....Aitkin

Belsheim, A. G.....Aitkin
Kelly, B. W.....Aitkin

Upper Mississippi Medical Society

Aitkin, Beltrami, Cass, Crow Wing, Hubbard, Morrison, Todd, and
Wadena Counties

Regular meetings, January, April, July and October.

Annual meeting in January

PRESIDENT
Christie, George R. Long Prairie
SECRETARY
Coulter, Charles F. Wadena
Batcheller, Oliver T. Brainerd
Beise, R. A. Brainerd
Corse, Charles A. Verndale
Courtney, Walter Brainerd
Crosette, G. D. Motley
Desmond, M. A. Akeley
Fowler, E. S. Staples

Hall, Elmer E. Little Falls
Hemstead, Werner Brainerd
Holst, C. F. Little Falls
Holst, J. B. Little Falls
Johnson, Oscar V. Sebeka
Kenyon, Paul E. Wadena
Knickerbocker, Frank H. Staples
Lowthian, G. H. Hewitt
Miller, W. A. New York Mills
Millsbaugh, J. G. Little Falls
Morrell, W. N. Verndale

Mowers, S. W. Brainerd
Nicholson, Joseph Brainerd
Parrott, B. W. Long Prairie
Reeves, C. E. Clarissa
Reid, William Deer Wood
Reimstad, C. S. Brainerd
Roberts, L. M. Little Falls
Thabes, J. A. Brainerd
Trace, O. C. Little Falls
Van Valkenburg, B. F., Long Prairie
Wilcox, F. L. Walker

THIRD DISTRICT

COUNCILOR, W. S. FULLERTON. St. Paul

Ramsey County Medical Society

PRESIDENT
Abbott, E. J. St. Paul
SECRETARY
Leavitt, F. E. St. Paul
Allen, Mason. St. Paul
Arcker, A. B. St. Paul
Appleby, E. V. St. Paul
Armstrong, J. M. St. Paul
Artz, C. P. St. Paul
Bacon, Knox. St. Paul
Bacon, L. C. St. Paul
Balcome, F. E. St. Paul
Ball, C. R. St. Paul
Barsness, Nellie. St. Paul
Beckley, F. L. St. Paul
Benepe, L. M. St. Paul
Bennion, P. H. St. Paul
Bettingen, J. W. St. Paul
Binder, G. A. St. Paul
Boeckmann, E. St. Paul
Boeckmann, Egill St. Paul
Bole, R. S. St. Paul
Boxell, E. C. St. Paul
Brimhall, J. B. St. Paul
Brown, E. L. St. Paul
Buckley, E. W. St. Paul
Burch, F. St. Paul
Burns, R. M. St. Paul
Cameron, J. A. St. Paul
Campbell, E. P. St. Paul
Campbell, J. E. South St. Paul
Cannon, Charles M. St. Paul
Casseday, F. F. Rosemount
Cavanaugh, J. O. St. Paul
Chamberlin, J. W. St. Paul
Christison, J. T. St. Paul
Colvin, A. R. St. Paul
Cook, Paul B. St. Paul
Coon, Geo. M. St. Paul
Cuff, Wm. S. St. Paul
Cummings, J. H. St. Paul
Davis, H. W. St. Paul
Davis, William. St. Paul
Dennis, W. A. St. Paul
Denny, C. F. St. Paul
Dinwoodie, Wm. St. Paul
Drechsler, H. St. Paul
Dunning, A. W. St. Paul
Earl, Robert O. St. Paul
Ferguson, J. C. St. Paul
Flagg, S. D. St. Paul

Foster, Burnside St. Paul
Freeman, G. H. St. Peter
Fullerton, W. S. St. Paul
Fulton, John F. St. Paul
Geer, E. F. St. Paul
Ghent, M. M. St. Paul
Gillfillan, J. S. St. Paul
Gillette, A. J. St. Paul
Goodrich, Judd St. Paul
Gravelle, J. M. A. St. Paul
Greene, C. L. St. Paul
Hall, A. R. St. Paul
Hall, Charlotte St. Paul
Hawkins, V. J. St. Paul
Heath, A. C. St. Paul
Henderson, Melvin. St. Paul
Hesselgrave, S. S. St. Paul
Hilger, A. W. St. Paul
Hodgkinson, J. G. South St. Paul
Hoff, Peder A. St. Paul
Hunt, H. E. St. Paul
Johnson, Asa St. Paul
Johnson, H. C. St. Paul
Jones, Talbot St. Paul
Kannary, E. L. St. Paul
Keam, A. P. St. Paul
Kelly, W. D. St. Paul
Kirkwood, S. M. St. Paul
Kistler, A. S. St. Paul
Lando, D. H. St. Paul
Lanckester, Howard St. Paul
Lerche, Wm. St. Paul
Lewis, J. D. St. Paul
Lewis, W. W. St. Paul
Little, W. J. St. Paul
Lundholm, E. M. St. Paul
McCord, E. W. St. Paul
McDavitt, Thos. St. Paul
McKeon, Owen. St. Paul
McLaren, Jennette M. St. Paul
MacLaren, A. St. Paul
McNamara, J. G. South St. Paul
Macdonald, Angus St. Paul
Markoe, J. C. St. Paul
Meade, C. J. St. Paul
Meyerding, E. A. St. Paul
Nelson, J. C. St. Paul
Nelson, L. A. St. Paul
Nippert, H. T. St. Paul
Norton, H. G. St. Paul
O'Brien, H. J. St. Paul

O'Connor, J. V. St. Paul
Ogden, B. H. St. Paul
Ohage, Justus. St. Paul
Peddicord, H. St. Paul
Pine, A. A. St. Paul
Pine, O. S. St. Paul
Plondke, F. J. St. Paul
Pool, Daniel. St. Paul
Quinn, J. A. St. Paul
Ramsey, W. R. St. Paul
Ravich, S. Seattle, Wash.
Renz, G. A. St. Paul
Reynolds, M. H. St. Paul
Riggs, C. E. St. Paul
Ritchie, H. P. St. Paul
Ritchie, Parks St. Paul
Robinson, L. S. B. St. Paul
Rogers, J. T. St. Paul
Rothrock, J. L. St. Paul
Roy, Philemon St. Paul
Savage, F. J. St. Paul
Schadle, J. E. St. Paul
Schuld, F. C. St. Paul
Schwyzer, Arnold St. Paul
Senkler, Geo. E. St. Paul
Shimonek, Anton St. Paul
Skinner, H. O. St. Paul
Smith, C. E. St. Paul
Sneve, Eldor St. Paul
Sohlberg O. St. Paul
Staley, J. C. St. Paul
Stamm, Gottfried. St. Paul
Sweeney, Arthur St. Paul
Sweeney, C. F. St. Paul
Taylor, H. L. St. Paul
Teisberg, C. B. Ashby
Tessler, M. St. Paul
Van Slyke, C. A. St. Paul
Van Slyke, F. W. St. Paul
Vieregge, J. A. St. Paul
Wald, R. H. Hastings
Walrath, Belle M. St. Paul
Walther, E. St. Paul
Wheaton, C. A. St. Paul
Whitacre, J. C. St. Paul
Whitcomb, E. H. St. Paul
Whitman, A. F. St. Paul
Whitney, A. W. St. Paul
Williams, C. St. Paul
Wood, E. S. St. Paul
Zaun, J. J. St. Paul

Washington County Medical Society

Regular meetings second Tuesday every two months, odd numbered
months

Annual meeting in January.

PRESIDENT
Boleyn, E. S. Stillwater
SECRETARY
Landeem, F. G. Stillwater
Burfiend, G. H. Afton
Clark, T. C. Stillwater
Cottom, F. W. Marine Mills

Freligh, E. O'B. Stillwater
Furber, W. W. Cottage Grove
Haines, J. H. Stillwater
Humphrey, W. R. Stillwater
Kallhoff, D. Stillwater
Merrill, B. J. Stillwater
Noth, Henry W. Minneapolis

Pratt, W. H. Stillwater
Ryan, E. P. Stillwater
Steen, A. H. Cottage Grove
Stevens, F. A. Lake Elmo
Thomas, O. F. Lakeland
Wells, E. E. Stillwater
Withrow, M. E. International Falls

Chisago-Pine County Medical Society

Regular meetings, second Tuesday in January, April, July, and October
Annual meeting in October

PRESIDENT
McEachern, W. A. Sandstone
SECRETARY
Stierle, A., Jr. Rush City
Anderson, C. A. Rush City
Dredge, H. P. Sandstone
Cowen, D. W. Sandstone

Ehmke, W. C. Willow River
Froehlich, H. W. Pine City
Gunz, A. N. Center City
Kranz, Martin Hinckley
Lundgren, C. E. Harris
Murdock, H. G. Taylor's Falls
Stenberg, Oscar North Branch

Stephan, E. L. Hinckley
Taustrom, Ingeborg. Lindstrom
Wiseman, R. L. Pine City
Werner, O. S. Lindstrom
Zeien, Thos. North Branch

Central Minnesota District Medical Society

Mille Lacs, Isanti, Sherburne, and Kanabec Counties

Annual meeting in November

PRESIDENT
Bacon, H. P.Milaca
SECRETARY
Lewis, A. J.Mora

Cooney, H. C.Princeton
Hammond, W. D.Isanti
Hixon, R. B.Cambridge
Olson, S. H.Milaca

Swennes, O. S.Lawrence
Swenson, CharlesBraham
Titus, W. S.Mora
Vrooman, F. E.St. Francis

St. Louis County Medical Society

Regular meetings, second Tuesday of each month

Annual meeting in December

PRESIDENT
Lum, C. E.Duluth
SECRETARY
Taylor, C. W.Duluth
Abbott, C. U.Aurora
Adams, B. S.Hibbing
Ayers, G. T.Ely
Bagley, W. R.Duluth
Barrett, F.Eveleth
Blacklock, S. S.Hibbing
Boyer, S. H.Duluth
Braden, A. J.Duluth
Bray, C. W.Biwabik
Brooks, G. F.Stevenson
Brunelle, A. M.Cloquet
Budd, J. D.Two Harbors
Butchard, G. N.Hibbing
Carson, J. H.Duluth
Chapman, T. L.Duluth
Cheney, E. L.Duluth
Collins, H.Duluth
Conkey, C. D.Duluth
Covenry, W. A.Duluth
Crowe, J. H.Virginia
Daugherty, E. B.Duluth
Davis, H. S.Duluth
Day, W. A.Sparta
Deslauriers, A. A.Duluth
Detling, F. E.Duluth
Drenning, F. C.Duluth

Eklund, J. J.Duluth
Fahey, E. W.Duluth
Flemming, F. C.Cloquet
Gans, E. M.Eveleth
Graham, D.Duluth
Graham, R.Duluth
Grawn, F. A.Duluth
Greeley, L. Q.Duluth
Hamel, C. E.Duluth
Harwood, W. E.Eveleth
Hirschfield, M. S.Duluth
Hovde, A. G.Biwabik
Hovde, Hans N.Duluth
James, R. C.Hibbing
Jern, J. H.Duluth
Johnson, J. V.Eveleth
Kean, N. D.Colerain, Mich.
Keyes, C. R.Duluth
Kraft, P.Duluth
Kuth, J. R.Duluth
Lenont, C. B.Virginia
Linneman, N. L.Duluth
Lynam, F.Duluth
McAuliffe, J.Duluth
McComb, C. F.Duluth
McCoy, MaryDuluth
McCuen, J. A.Duluth
McGiffert, E. N.Duluth
Magie, W. H.Duluth
Moore, L. A.Galva, Ill.

More, C. W.Eveleth
Murray, D. D.Duluth
Nyquist, J. E.Cloquet
Oredson, O. A.Duluth
Pare, L. T.Duluth
Parker, O. W.Ely
Patton, F. J.Duluth
Payette, C. H.Duluth
Robinson, J. M.Duluth
Rood, D. C.Hibbing
Schlick, A. T.Duluth
Schwartz, A. H.Duluth
Seashore, D. E.Duluth
Sewall, R. J.Cloquet
Shaw, A. W.Buhl
Shipman, C. G.Ely
Stewart, C. A.Duluth
Stocker, S. M.Duluth
Storch, C. M.Grand Rapids
Strech, E. D.Duluth
Sukeforth, L. A.Duluth
Taylor, A. C.Duluth
Tilderquist, D. L.Duluth
Tufty, J. M. O.Duluth
Tuohy, E. L.Duluth
Walker, A. E.Duluth
Webster, H. E.Duluth
Weston, J. B.Duluth

FOURTH DISTRICT

COUNCILOR, F. A. KNIGHTS.Minneapolis

Regular meetings, first Monday in each month, except July and August

Annual meeting in January

PRESIDENT
Moore, J. E.Minneapolis
SECRETARY
Bradley, C. H.Minneapolis
Abbott, A. W.Minneapolis
Adair, F. L.Minneapolis
Aldrich, A. G.Minneapolis
Anderson, A. E.Minneapolis
Anderson, J. D.Minneapolis
Angell, W. A.Minneapolis
Arey, H. C.Excelsior
Aurand, W. H.Minneapolis
Aurness, P. A.Minneapolis
Avery, J. Fowler.Minneapolis
Aylmer, A. L.Minneapolis
Baier, Florence C.Minneapolis
Bakke, O. H.Minneapolis
Barber, J. P.Minneapolis
Barton, G. C.Minneapolis
Bass, G. W.Minneapolis
Baxter, S. H.Minneapolis
Beard, R. O.Minneapolis
Beckman, E. H.Rochester
Behrens, B. M.Minneapolis
Bell, J. W.Minneapolis
Benjamin, A. E.Minneapolis
Bessen, A. N.Minneapolis
Eishop, C. W.Minneapolis
Blake, JamesHopkins
Bloom, W. D.Toronto, Canada
Bouman, H. A.Minneapolis
Braasch, W. F.Minneapolis
Bracken, H. M.St. Paul
Brown, E. J.Minneapolis
Brown, R. S.Minneapolis
Bryant, O. R.Minneapolis
Byrnes, W. J.Minneapolis
Campbell, R. A.Minneapolis
Carlaw, C. M.Minneapolis
Cary, H. E.Minneapolis
Cates, A. B.Minneapolis
Chapman, O. S.Minneapolis

Cirkler, A. A.Minneapolis
Cockburn, J. C.Minneapolis
Cohen, H. A.Minneapolis
Condit, W. H.Minneapolis
Cook, H. W.Minneapolis
Cooke, W. H.Minneapolis
Corbett, J. F.Minneapolis
Cosmann, E. O.Minneapolis
Cowles, D. C.Minneapolis
Crafts, Leo M.Minneapolis
Crosby, J. A.Minneapolis
Cross, Jno. G.Minneapolis
Crume, Geo. P.Minneapolis
Dart, L. O.Minneapolis
Day, L. W.Minneapolis
Dearborn, B. S.Minneapolis
Deziel, G.Minneapolis
Disen, C. F.Minneapolis
Donaldson, C. A.Minneapolis
Driesbach, N.Minneapolis
Dunsmoor, F. A.Minneapolis
Dutton, C. E.Minneapolis
Eitel, Geo. G.Minneapolis
Erb, Frederick A.Minneapolis
Erickson, J. G.Minneapolis
Farr, R. E.Minneapolis
Fifield, Emily W.Minneapolis
FitzGerald, Don F.Minneapolis
Force, J. F.Pasadena, Cal.
Franzen, H. G.Minneapolis
Fryberger, W. O.Minneapolis
Geist, Emil S.Minneapolis
Gordon, G. J.Minneapolis
Gould, J. B.Minneapolis
Graham, B. F.Minneapolis
Green, E. K.Minneapolis
Guilford, H. M.Minneapolis
Hagaman, George K.Anoka
Haggard, G. D.Minneapolis
Hall, W. A.Minneapolis
Hamilton, A. S.Minneapolis
Hare, E. R.Minneapolis

Harrah, J. W.Minneapolis
Harrington, C. D.Minneapolis
Hartzell, Thos. B.Minneapolis
Haverfield, Addie R.Minneapolis
Haynes, F. E.Minneapolis
Head, Geo. D.Minneapolis
Hedback, A. E.Minneapolis
Helk, H. H.Minneapolis
Henry, C. E.Minneapolis
Hill, R. J.Minneapolis
Hirschfield, Adolph.Minneapolis
Hcegh, Knut.Minneapolis
Holl, P. M.Minneapolis
Hunter, C. H.Minneapolis
Hutchins, E. A.Minneapolis
Hvoslef, Jakob.Minneapolis
Hynes, JamesMinneapolis
Hynes, J. E.Minneapolis
Irwin, A. F.Minneapolis
Jensen, M. J.Minneapolis
Johnson, A. E.Minneapolis
Jones, Herbert W.Minneapolis
Jones, W. A.Minneapolis
Kelly, E. S.Minneapolis
Kimball, H. H.Minneapolis
Kistler, C. M.Minneapolis
Kistler, J. M.Minneapolis
Knights, F. A.Minneapolis
Kriedt, Dan'l.Minneapolis
Lapierre, C. A.Minneapolis
Laton, W. S.Minneapolis
Law, A. A.Minneapolis
Lee, Thos. G.Minneapolis
Leland, M. H.Minneapolis
Lewis, J. M.Minneapolis
Lind, A.Minneapolis
Lind, C. J.Minneapolis
Linjer, O. E.Minneapolis
Linton, W. B.Minneapolis
Little, J. W.Minneapolis
Litzenberg, J. C.Minneapolis
Loberg, A. E.Minneapolis

(APRIL, 1907)

Lockwood, L. S. O.....Minneapolis
 Long, Jesse.....Minneapolis
 Lynch, M. J.....Minneapolis
 Lynch, R. F.....Minneapolis
 McCollom, C. A.....Minneapolis
 McDaniel, Oriana.....Minneapolis
 McDonald, H. N.....Minneapolis
 McDonald, I. C.....Minneapolis
 McDougald, D. W.....Minneapolis
 McEachran, A.....Minneapolis
 McKee, C. S.....Minneapolis
 McLaughlin, J. A.....Minneapolis
 McMurphy, R. S.....Minneapolis
 Macdonald, J. W.....Minneapolis
 Macnie, J. S.....Minneapolis
 Mann, A. T.....Minneapolis
 Mead, Marion A.....Minneapolis
 Miles, Robert S., Jr.....Excelsior
 Mintener, J. W.....Minneapolis
 Mitchell, L. C.....Minneapolis
 Moore, J. T.....Minneapolis
 Moorehead, Martha B.....Minneapolis
 Morton, H. McI.....Minneapolis
 Mullin, R. H.....Minneapolis
 Murdock, A. J.....Minneapolis
 Murphy, W. B.....Minneapolis
 Murray, Wm. R.....Minneapolis
 Musgrave, Samuel, Jr., Minneapolis
 Nelson, H. S.....Minneapolis
 Newhart, Horace.....Minneapolis
 Nickerson, M. L.....Minneapolis
 Nickerson, W. S.....Minneapolis
 Nippert, L. A.....Minneapolis
 Nissen, Henrik.....Minneapolis
 Nootnagel, C. F.....Minneapolis
 Norred, C. H.....Minneapolis

Nye, W. F.....Minneapolis
 Orton, H. N.....Minneapolis
 Owre, Oscar.....Minneapolis
 Parker, E. H.....Minneapolis
 Peters, R. M.....Minneapolis
 Pettit, C. W.....Minneapolis
 Phillips, Edwin.....Minneapolis
 Pineo, W. B.....Minneapolis
 Poeher, F. T.....Minneapolis
 Porteous, W. N.....Minneapolis
 Pratt, F. J.....Minneapolis
 Quinby, Thos. F.....Minneapolis
 Reed, Chas. A.....Minneapolis
 Rees, S. P.....Minneapolis
 Ringnell, C. J.....Minneapolis
 Rishmiller, J. H.....Minneapolis
 Roberts, Cora B.....Minneapolis
 Roberts, Thos. S.....Minneapolis
 Robitshek, E. C.....Minneapolis
 Rochford, W. E.....Minneapolis
 Rosen, Samuel.....Minneapolis
 Rutledge, J. W.....Minneapolis
 Sanford, J. A.....Minneapolis
 Schefcik, J. F.....Minneapolis
 Schjelderup, N. H.....Minneapolis
 Schmidt, Karl H.....Minneapolis
 Schwyzer, G.....Minneapolis
 Seashore, Gilbert.....Minneapolis
 Sedgwick, J. P.....Minneapolis
 Simpson, J. D.....Minneapolis
 Sivertsen, Ivar.....Minneapolis
 Smith, C. A.....Minneapolis
 Smith, D. Edmund.....Minneapolis
 Soderlund, A.....Minneapolis
 Spratt, C. J.....Minneapolis
 Spratt, C. N.....Minneapolis

Staples, H. L.....Minneapolis
 Stewart, J. Clark.....Minneapolis
 Strout, E. S.....Minneapolis
 Stuart, J. H.....Minneapolis
 Sweetser, H. B.....Minneapolis
 Sweetzer, S. E.....Minneapolis
 Talbot, Ada E.....Minneapolis
 Thomas, David O.....Minneapolis
 Thomas, Geo. H.....Minneapolis
 Tibbits, J. I.....Wayzata
 Tingdale, A. C.....Minneapolis
 Todd, F. C.....Minneapolis
 Towers, J. E.....Minneapolis
 Towers, Mary E.....Minneapolis
 Ulrich, Henry L.....Minneapolis
 VanderHorck, M. P.....Minneapolis
 Wang, A. M.....Minneapolis
 Wanous, E. Z.....Minneapolis
 Warham, Thos. T.....Minneapolis
 Watson, J. A.....Minneapolis
 Watson, Jno.....St. Louis Park
 Wesbrook, F. F.....Minneapolis
 Weston, C. G.....Minneapolis
 Whetstone, Mary S.....Minneapolis
 Whipple, C. D.....Minneapolis
 White, S. M.....Minneapolis
 Wilcox, Van H.....Minneapolis
 Williams, C. W.....Minneapolis
 Williams, H. L.....Minneapolis
 Williams, U. G.....Minneapolis
 Witham, C. A.....Minneapolis
 Woodard, F. R.....Minneapolis
 Woodworth, Elizabeth.....Minneapolis
 Wright, C. B.....Minneapolis
 Wright, C. D.....Minneapolis
 Wright, F. R.....Minneapolis

Meeker County Medical Society

Regular meetings, January, April and October

Annual meeting in October

SECRETARY
 Robertson, J. W.....Litchfield
 Brigham, F. T.....Watkins
 Cassell, H. E.....Litchfield

Chapman, W. E.....Litchfield
 Cutts, G. A.....Grove City
 Danielson, Karl A.....Litchfield
 Donovan, J. J.....Eden Valley

Hildebrandt, Ernest...Forest City
 Kauffman, J. H.....Dassel
 Peterson, A. C.....Dassel

Wright County Medical Society

Regular meetings first Monday in January, April, July and October

Annual meeting in January

PRESIDENT
 Higgins, J. H.....Rockford
 SECRETARY
 Catlin, John J.....Buffalo
 Bergquist, Karl E.....Cokato

Bohland, E. H.....Hanover
 Catlin, T. J.....Waukenabo
 Chilton, E. Y.....Howard Lake
 Hawkins, E. P.....Montrose
 Larsen, Carl L.....Buffalo

O'Connor, J. P.....Delano
 O'Hair, P.....Waverly
 Ridgway, A. M.....Annandale
 Shannon, E. A.....Buffalo
 Shrader, E. E.....Watertown

Stearns-Benton County Medical Society

Regular meetings, third Thursday in January, April, July, and October

Annual meeting in April

PRESIDENT
 Lewis, Edwin J.....Sauk Center
 SECRETARY
 Boehm, J. C.....St. Cloud
 Bacon, G. A.....Sauk Rapids
 Beatty, J. H.....St. Cloud
 Beebe, W. L.....St. Cloud
 Brigham, G. S.....St. Cloud
 Childgren, G. A.....Sauk Rapids
 DuBois, Julian A.....Sauk Center
 Dunn, John B.....St. Cloud
 Edmunds, I. L.....St. Cloud

Ferree, George P.....New Paynesville
 Hilbert, Pierre A.....Melrose
 Holdridge, Geo. A.....Foley
 Hubert, R. I.....St. Cloud
 Kern, Max J.....Freeport
 Kieghis, Adrian.....Sauk Center
 Kuhlmann, August.....Melrose
 Lalonde, Edmund.....Torah
 Lamb, Harold L.....Sauk Center
 Leech, Stuart W.....Brooten
 Lewis, C. B.....St. Cloud

McMasters, James M.....Sauk Center
 Maloy, Geo. E.....St. Cloud
 Moynihan, A. F.....Sauk Center
 Pilon, Pierre C.....New Paynesville
 Pinnault, H. A.....St. Joseph
 Putney, Geo. E.....New Paynesville
 Ridgway, Alex.....Belgrade
 Sherwood, Geo. E.....Kimball
 Whiting, Arthur D.....St. Cloud
 Wolner, O. H.....St. Cloud
 Woods, E. A.....Clear Lake

Kandiyohi-Swift County Medical Society

Meetings at call of President

Annual meeting in April

PRESIDENT
 Johnson, Christian.....Willmar
 SECRETARY
 Newman, G. A.....New London
 Archibald, F. M.....Breckenridge
 Branton, Berton J.....Atwater

Daignault, Oscar.....Benson
 Frost, E. H.....Willmar
 Hoftoe, Ole T.....New London
 Jacobs, J. C.....Spicer
 Johnson, Hans.....Murdock

McLaughlin, W. E.....Willmar
 Peterson, J. R.....Willmar
 Rains, J. M.....Willmar
 Scofield, C. L.....Benson
 Thoresen, T. N.....Benson

FIFTH DISTRICT

COUNCILOR, H. M. WORKMAN.....Tracy

Camp Release District Medical Society

Renville, Chippewa, Lac qui Parle, Yellow Medicine, and Sibley Counties

Regular meetings, fourth Thursday in January, April, July and October

Annual meeting in January

PRESIDENT
Giere, E. O.Madison
SECRETARY
Zimbeck, R. D.Montevideo
Bacon, R. S.Montevideo
Beck, W. M.Hanley Falls
Benson, O. O.Sacred Heart
Burns, Floyd W.Watson
Burns, M. A.Milan
Bushey, M. E.Arlington
Carpenter, G. S.Porter
Clay, E. M.Renville
Cole, H. B.Franklin
Cressey, F. J.Granite Falls
Davison, P. C.Clara City
Duncan, HenryMarietta
Ferguson, James B.Olivia

Flower, Ward Z.Gibbon
Gammell, H. W.Madison
Hacking, F. H.Granite Falls
Holland, J. W.Maynard
Hendrickson, H. W. Davenport, Ia.
Hutchins, O. S.Canby
Johnson, A. E.White Rock, S. D.
Johnson, H. M.Dawson
Johnson, Otto F.Winthrop
Jones, D. N.Gaylord
Kanne, C. W.Arlington
Kilbride, J. S.Canby
La Rue, B. F.Appleton
Lee, Wm. P.Fairfax
Lima, LudwigMontevideo
Lumley, W. A.Renville
Mee, P. H.Gaylord

Mesker, G. H.Olivia
Miller, F. C.Olivia
Moore, W. J.Wood Lake
Nelson, N. A.Dawson
Penhall, F. W.Morton
Powell, C. B.Bellingham
Rees, Harold.Granite Falls
Rogers, C. E.Montevideo
Stemsrud, A. A.Dawson
Stoddard, A. G.Fairfax
Stolpestad, H. L.Lafayette
Strout, George E.Winthrop
Thrane, M.Madison
Titus, J. H.Minneapolis
Watson, Charles W.Bovd
Watson, F. G.Clarkfield

Brown-Redwood County Medical Society

Regular meetings, January, April and October

Annual meeting second Tuesday in January

PRESIDENT
Strickler, O. C.New Ulm
SECRETARY
Brand, W. A.Redwood Falls
Adams, J. L.Morgan
Aldrich, F. H.Belview
Clement, L. O.Lamberton

Fritsche, L. A.New Ulm
Gosslee, G. L.Wabasso
Gibson, C. P.Redwood Falls
Gray, F. D.Vesta
Meyer, E. L.Walnut Grove
Pease, Giles R.Redwood Falls
Reineke, G. F.New Ulm

Richards, W. G.Sanborn
Rothenberg, J. C.Springfield
Schoch, J. L.New Ulm
Shrader, J. S.Springfield
Weiser, G. B.New Ulm
Wellcome, J. W. B.Sleepy Eye
Wood, D. F.Hanska

Lyon-Lincoln County Medical Society

Regular meetings, first Tuesday in February, July and November

Annual meeting in February

PRESIDENT
Workman, W. H.Tracy
SECRETARY
Workman, H. M.Tracy
Cox, A. J.Tyler

Germo, Chas.Balaton
Hoidale, A. D.Tracy
Jensen, J. C.Hendricks
Krudson, B. C.Tyler
Persons, C. E.Marshall

Robertson, J. B.Cottonwood
Thordarson, Th.Minneota
Wakefield, Wm.Lake Benton
Weyrens, P. J.Ivanhoe

SIXTH DISTRICT

COUNCILOR, A. E. SPALDING.....Luverne

Southwestern Society

Pipestone, Rock, Nobles, Murray, Cottonwood, and Jackson Counties

Regular meetings in January and July

Annual meeting in January

PRESIDENT
Richardson, W. E.Slayton
SECRETARY
King, EmilFulda
Balcom, G. G.Lake Wilson
Beadie, W. D.Windom
Bong, J. H.Jasper
Brown, A. H.Pipestone
Carr, E. M.Pipestone
Carrell, F. A.Rushmore
Clark, A. H.Worthington
Crowley, J. M.Ellsworth
Dickman, L. A.Lismore
Dolan, C. P.Worthington

Doxey, George L.Edgerton
Gerber, Lou M.Jasper
Geyerman, P. T.Worthington
Greene, C. A.Windom
Humiston, Ray.Worthington
Kilvington, S. S.Dundee
Lowe, Thomas.Pipestone
Manson, F. M.Worthington
May, C. C.Adrian
Miller, Victor I.Westbrook
Nelson, C. P.Westbrook
Nessa, N. J.Brewster
Rice, G. D.Pipestone
Schultz, J. A.Emmons

Scarles, ScottLakefield
Sherman, C. L.Luverne
Sogge, L. L.Windom
Spalding, A. E.Luverne
Stevens, R. G.Heron Lake
Sullivan, M.Adrian
Taylor, Wm. J.Pipestone
Tofte, Josephine.Ruthon
Weiser, F. R.Windom
Wiedow, Henry.Worthington
Williams, A. B.Willmont
Williams, Leon A.Slayton
Wright, C. O.Luverne

Blue Earth Valley Medical Society

Faribault and Martin Counties

Regular meetings second Tuesday in January and July

Annual meeting in January

PRESIDENT
Hunt, F. N.Blue Earth City
SECRETARY
Broberg, J. A.Blue Earth
Burton, C. N.Elmore

Forbes, H. J.Winnebago City
Franklin, A. J.Blue Earth City
Guillixion, A.Bricelyn
Humes, J. P.Winnebago City
Henninger, L. L.Blue Earth
Watsonwan County Medical Society
Bissell, C. P.Lewisville
Brown, Sherman.Madelia
Haynes, B. H.St. James

Jacobs, A. C.Elmore
Johnson, H. P.Fairmont
Richardson, W. J.Fairmont
Schmitt, S. C.Blue Earth
Urstad, O. H.Kiester

PRESIDENT
Thompson, AlbertSt. James
SECRETARY
Cooley, C. O.Madelia

Rowe, W. H.St. James

SEVENTH DISTRICT

COUNCILOR, F. A. DODGE.....Le Sueur

Nicollet County Medical Society

Nicollet and the West Half of Le Sueur County

Regular meetings, January and September
Annual meeting in January

PRESIDENT

Theissen, W. M.Henderson

SECRETARY

La Clerc, Joseph E.LeSueur
Aitkins, H. B.LeSueur CenterDaniels, J. W.St. Peter
Darling, W. H.St. Peter
Dodge, F. A.Le Sueur
Hopkins, Mary P.St. Peter
Kirk, D. A.Le Sueur
McIntyre, G. W.St. PeterMerritt, Geo. F.St. Peter
Powell, W. H.Kasota
Ray, C. W.Nicollet
Strathern, F. P.St. Peter
Tomlinson, H. A.St. Peter
Valin, H. D.St. Peter

McLeod County Medical Society

Regular meetings, April, July and October
Annual meeting in January

PRESIDENT

Sheppard, P. E.Hutchinson

SECRETARY

James, P. E.Hutchinson
Axilrod, D. L.Hutchinson
Barrett, E. E.GlencoeBolles, D. W.Brownton
Clark, H. S.Glencoe
Clement, Jno. B.Lester Prairie
Dulude, S.Winsted
Hovorka, T. W.Glencoe
Kohler, F. G.StewartNickerson, B. S.Glencoe
Sheppard, Fred.Hutchinson
Trutna, T. J.Silver Lake
Wakefield, KeeHutchinson

Scott-Carver County Medical Society

Regular meetings first Thursday in March, June, September and
December
Annual meeting in December

PRESIDENT

Novac, Edward E.New Prague

SECRETARY

Reiter, H. W.Shakopee
Bohland, F. J.Belle PlaineGrivelli, C. T.Young America
Grivelli, H. J.Newmarket
Landenberger, John.New Prague
McKeon, James.Montgomery
Moloney, G. R.Belle PlainePhillips, W. H.Jordan
Pozdena, Otto R.New Prague
Schneider, H. A.Jordan
Smith, H. O.Shakopee
Soper, John E.Norwood

Goodhue County Medical Society

PRESIDENT

Wellner, G. C.Red Wing

SECRETARY

Anderson, J. V.Red Wing
Brynildsen, H. L.Vasa
Conley, A. T.Cannon FallsConley, H. E.Cannon Falls
Dimmitt, F. W.Red Wing
Grytenholm, K.Zumbrota
Hill, Charles.Pine IslandJones, A. W.Red Wing
McKinstry, H. L.Red Wing
Overholt, G. H.Kenyon
Watson, T. R.Zumbrota

Rice County Medical Society

Regular meetings, January, April, July and October
Annual meeting in January

PRESIDENT

Rogers, A. C.Faribault

SECRETARY

Rumpf, W. H.Faribault
Brubaker, E. E.Northfield
Davis, F. C.FaribaultGreaves, Wm.Northfield
Hunt, W. A.Northfield
Huxley, F. R.Faribault
La Moure, H. A.Faribault
Macdonald, A.Morristown
Mayland, M. L.Faribault
Phillips, J. R.Northfield
Pringle, A. F.NorthfieldRobillard, W. H.Faribault
Rose, F. M.Faribault
Smith, P. A.Faribault
Warren, F. S.Faribault
Wilkowski, C. W.Faribault
Wilson, W.Northfield
Wylie, A. R. T.Faribault

Wabasha County Medical Society

Regular meeting (annually) first Thursday after first Monday in July

PRESIDENT

Slocumb, J. A.Plainview

SECRETARY

Wilson, W. F.Lake City
Adams, W. T.ElginBayley, E. H.Lake City
Cochrane, W. J.Lake City
Davis, J. P.Hammond
Dougherty, J. P.Wabasha
French, E. A.Plainview
French, E. J.PlainviewIngram, L. C.Zumbro Falls
Lester, Charles A.Wabasha
McGuigan, Henry T.Mazeppa
McGuire, C. J.Minneiska

EIGHTH DISTRICT

COUNCILOR, A. O. BJELLAND.....Mankato

Blue Earth County Medical Society

Regular meetings last Monday of each month
Annual meeting, December meeting

PRESIDENT

Bomberger, F. J.Mapleton

SECRETARY

Liedloff, A. G.Mankato
Andrews, J. W.Mankato
Beach, W. A.Mankato
Benham, E. W.Amboy
Bjelland, A. O.Mankato
Brandenburg, F. D.Mankato
Coon, Wm. F.Elysian
Curran, G. R.MankatoDahl, G. A.Mankato
Davis, E. J.Minnehaha
Edwards, J. M.Mankato
Grimes, H. B.Lake Crystal
Hering, H. H.Lake Crystal
Hielscher, J. A.Mankato
Holbrook, J. S.Mankato
Holman, C. J.Mankato
Hughes, Helen.Mankato
Hughes, Jane.Mankato
James, J. H.Mankato
Kelly, T. C.North MankatoKrueger, L. W.Mapleton
McMicheal, O. H.Vernon Center
Merrill, J. E.Amboy
Osborn, Lida.Mankato
Schlesselman, J. T.Good Thunder
Schmauss, L. F.Mankato
Smith, D. D.Mankato
Webster, I. D.Mankato

Dodge County Medical Society

Regular meetings, third Wednesday in January, May, and September

Annual meeting in May

PRESIDENT
Bigelow, C. S. Dodge Center
SECRETARY
Harrison, E. E. West Concord

Adams, R. T. Mantorville
Baker, A. L. Kasson
Belt, W. E. Dodge Center
Clifford, F. F. West Concord

Davis, F. W. Kasson
Thimsen, N. C. Hayfield
Way, O. F. Clairmont

Freeborn County Medical Society

PRESIDENT
Wedge, A. C. Albert Lea
SECRETARY
Burton, O. A. Albert Lea
Barck, G. W. Albert Lea
Bessessen, W. A. Albert Lea

Blackmer, F. J. Alden
Freeman, J. P. Glenville
Hood, Mary E. Albert Lea
McKey, T. F. Albert Lea
Nannestad, J. R. Albert Lea
Palmer, W. L. Albert Lea

Rodli, O. E. Albert Lea
Todd, W. E. Albert Lea
Von Berg, J. P. Albert Lea
Williams, Robert Minneapolis

Houston-Fillmore County Medical Society

PRESIDENT
Browning, W. E. Caledonia
SECRETARY
Drake, F. A. Lanesboro
Dunn, J. T. Wykoff
Fischer, O. F. Houston
Freeman, W. L. Chatfield

Gowdy, F. A. Harmony
Hart, A. B. Canton
Hvoslef, J. C. Lanesboro
Jensen, T. Spring Grove
Love, George A. Preston
Nass, H. A. Mabel

Onsgard, C. K. Rushford
Onsgard, L. K. Houston
Reay, G. R. Hokah
Rhines, D. C. Caledonia
Williams, R. V. Rushford
Woodruff, C. W. Chatfield

Mower County Medical Society

Regular meetings second Wednesday of January, April, July and October

Annual meeting in October

PRESIDENT
Schottler, G. J. Dexter
SECRETARY
Schultz, F. W. Waltham
Allen, A. W. Austin

Cobb, W. F. Lyle
Piester, Fannie K. Austin
Frazer, W. A. Lyle
Gray, G. W. Brownsdale
Hegge, O. H. Austin

Johnson, C. H. Austin
Lewis, C. F. Austin
Mitchell, R. S. Grand Meadow
Rodgers, Emma W. Austin

Olmsted County Medical Society

Regular meetings, second Friday of each month

Annual meeting in January

PRESIDENT
Crewe, John E. Rochester
SECRETARY
Matthews, Justus Rochester
Burns, Frank W. Stewartville
Chapple, Chas. L. Rochester
Dugan, R. C. Eyota
Fawcett, Charles Stewartville
Fullerton, Ellen C. Rochester
Giffin, H. Z. Rochester

Graham, C. Rochester
Heyerdale, O. C. Rochester
Joyce, George T. Rochester
Judd, E. S. Rochester
Kilbourne, A. F. Rochester
Linton, Laura A. Rochester
Mascher, A. P. Rochester
Mayo, C. H. Rochester
Mayo, W. J. Rochester
Mayo, W. W. Rochester

Millet, M. C. Rochester
Mosse, F. R. Rochester
Phelps, R. M. Rochester
Plummer, H. S. Rochester
Smith, Frank D. Oronoco
Steven, George. Byron
Stinchfield, A. W. Rochester
Wilson, L. B. Rochester
Witherline, H. H. Rochester
Witherline, W. H. Rochester

Steele County Medical Society

Regular meetings first Tuesday in odd numbered months

Annual meeting in January

PRESIDENT
Smersh, Francis M. Owatonna
SECRETARY
Stewart, Allan B. Owatonna
Adair, John H. Owatonna

Andrist, James W. Ellendale
Bigelow, Edward E. Owatonna
Chambers, W. C. Owatonna
Eustis, W. C. Owatonna
Hatch, Theo. L. Owatonna

Melby, Benedick. Blooming Prairie
Morehouse, G. G. Owatonna
Schulze, George. Owatonna
Wood, H. G. Blooming Prairie
Wood, William S. Blooming Prairie

Waseca County Medical Society

Regular meetings, first Monday in January, April, July and October

Annual meeting in January

PRESIDENT
Batchelder, E. J. New Richland
SECRETARY
Blanchard, H. G. Waseca
Chamberlin, W. A. Waseca

Cory, Wm. M. Waterville
Cummings, D. S. Waseca
Greene, F. W. Waterville
Hagen, H. O. New Richland
Lynn, J. F. Waseca

O'Hara, J. J. Janesville
Swartwood, F. A. Waseca
Taylor, M. J. Janesville

Winona County Medical Society

Regular meetings, first Tuesday of each month.

Annual meeting in January

PRESIDENT
Heise, W. F. C. Winona
SECRETARY
McGaughey, J. B. Winona
Blair, Paul B. Winona
Brown, Harry Rollingstone
Clark, C. N. St. Charles
Dudley, H. D.
..... Cananea, Sonora, Mexico
Gates, G. L. Winona

Keyes, E. D. Winona
Lane, N. S. Winona
Leicht, Oswald Winona
Lichtenstein, H. M. Winona
Lynch, J. L. Winona
McGaughey, H. F. Winona
McLaughlin, E. M. Winona
Muhr, Edwin S. Winona
Munger, L. H. Winona
Neumann, W. H. Lewiston

Olsen, O. R. St. Charles
Pritchard, D. B. Winona
Robbins, C. P. Winona
Rollins, F. H. St. Charles
Scott, J. W. St. Charles
Steinbach, John Winona
Stewart, D. A. Winona
Tweedy, G. J. Winona

ALPHABETICAL ROSTER

Abbott, A. W.	Minneapolis	Bissell, C. P.	Lewisville	Cheney, E. L.	Duluth
Abbott, C. U.	Aurora	Bjelland, A. O.	Mankato	Chilgren, G. A.	Sauk Rapids
Abbott, E. J.	St. Paul	Blacklock, S. S.	Hibbing	Chilton, E. Y.	Howard Lake
Aborn, Wm. H.	Hawley	Blackmer, F. J.	Alden	Christenson, C. R.	Starbuck
Adair, F. L.	Minneapolis	Blair, Paul B.	Winona	Christie, George R.	Long Prairie
Adair, John H.	Owatonna	Blake, James	Hopkins	Christison, J. T.	St. Paul
Adams, B. S.	Hibbing	Blanchard, H. G.	Waseca	Cirkler, A. A.	Minneapolis
Adams, J. L.	Morgan	Bloom, Wm. D.	Toronto, Canada	Clark, A. H.	Worthington
Adams, R. T.	Mantorville	Boeckmann, E.	St. Paul	Clark, C. N.	St. Charles
Adams, W. T.	Elgin	Boeckmann, Egill	St. Paul	Clark, H. S.	Glencoe
Aitkens, H. B.	Le Sueur Center	Boehm, J. C.	St. Cloud	Clark, T. C.	Stillwater
Aldrich, A. G.	Minneapolis	Bohland, E. H.	Hanover	Clay, E. M.	Renville
Aldrich, F. H.	Belview	Bohland, F. J.	Belle Plaine	Clement, Jno. B.	Lester Prairie
Alexander, F. H.	Barnesville	Bole, R. S.	St. Paul	Clement, L. O.	Lamberton
Allen, A. W.	Austin	Boleyn, E. S.	Stillwater	Cleveland, H. E.	Osakis
Allen, Mason	St. Paul	Bolles, D. W.	Brownston	Clifford, F. F.	West Concord
Ancker, A. B.	St. Paul	Bolsta, Chas.	Ortonville	Cobb, W. F.	Lyle
Anderson, A. E.	Minneapolis	Bomberger, F. J.	Manleton	Cochrane, W. J.	Lake City
Anderson, C. A.	Rush City	Bong, J. H.	Jasper	Cockburn, J. C.	Minneapolis
Anderson, J. D.	Minneapolis	Bouman, H. A.	Minneapolis	Cohen, H. A.	Minneapolis
Anderson, J. V.	Red Wing	Boxell, E. C.	St. Paul	Cole, Herman B.	Franklin
Andrews, J. W.	Mankato	Boyd, H. J.	Alexandria	Collins, H.	Duluth
Andrist, James W.	Ellendale	Boyer, S. H.	Duluth	Colvin, A. R.	St. Paul
Angell, W. A.	Minneapolis	Braasch, W. F.	Minneapolis	Condit, W. H.	Minneapolis
Appleby, E. V.	St. Paul	Brabec, F. J.	Perham	Conkey, C. D.	Duluth
Archibald, F. M.	Breckenridge	Bracken, H. M.	St. Paul	Conley, A. T.	Cannon Falls
Arey, H. C.	Excelsior	Braden, A. J.	Duluth	Conley, H. E.	Cannon Falls
Armstrong, J. M.	St. Paul	Bradley, C. H.	Minneapolis	Cook, H. W.	Minneapolis
Armstrong, L. W.	Breckenridge	Brand, W. A.	Redwood Falls	Cook, Paul B.	St. Paul
Artz, C. P.	St. Paul	Brandenburg, F. D.	Mankato	Cooke, W. H.	Minneapolis
Aurand, W. H.	Minneapolis	Branton, Berton J.	Atwater	Cooley, C. O.	Madellia
Aurness, P. A.	Minneapolis	Bratrud, Theodore	Warren	Coon, Geo. M.	St. Paul
Avery, J. Fowler	Minneapolis	Bray, C. W.	Biwabik	Coon, Wm. F.	Elysian
Awty, W. J.	Moorhead	Brigham, F. T.	Watkins	Cooney, H. C.	Princeton
Axlrod, D. L.	Hutchinson	Brigham, G. S.	St. Cloud	Cooper, D. J.	Dent
Ayers, G. T.	Ely	Brimhall, J. B.	St. Paul	Corbett, J. F.	Minneapolis
Aylmer, A. L.	Minneapolis	Broberg, J. A.	Blue Earth	Corse, Charles A.	Verndale
Bacon, G. A.	Sauk Rapids	Brooks, G. F.	Stevenson	Cory, Wm. M.	Waterville
Bacon, H. P.	Milaca	Brown, A. H.	Pipestone	Cosmann, E. O.	Minneapolis
Bacon, Knox	St. Paul	Brown, E. I.	St. Paul	Cottom, F. W.	Marine Mills
Bacon, L. C.	St. Paul	Brown, E. J.	Minneapolis	Coulter, Chas. F.	Wadena
Bacon, R. S.	Montevideo	Brown, Harry	Rolling Stone	Courtney, Walter	Brainerd
Baier, Florence C.	Minneapolis	Brown, R. S.	Minneapolis	Coventry, W. A.	Duluth
Baker, A. C.	Fergus Falls	Brown, Sherman	Madellia	Cowan, D. W.	Sandstone
Baker, A. L.	Kasson	Browning, W. E.	Caledonia	Cowing, Phil. G.	Ashby
Bakke, O. H.	Minneapolis	Brubaker, E. E.	Northfield	Cowles, D. C.	Minneapolis
Balcom, G. G.	Lake Wilson	Brunelle, A. M.	Cloquet	Cox, A. J.	Tyler
Balcome, F. E.	St. Paul	Bryant, O. R.	Minneapolis	Crafts, Leo M.	Minneapolis
Ball, C. R.	St. Paul	Brynildsen, H. L.	Vasa	Cressey, F. J.	Granite Falls
Barber, J. P.	Minneapolis	Buckley, E. W.	St. Paul	Crewe, John E.	Rochester
Barck, G. W.	Albert Lea	Budd, J. D.	Two Harbors	Crosby, J. A.	Minneapolis
Barrett, F. E.	Glencoe	Burch, F.	St. Paul	Crosette, G. D.	Motley
Barrett, F.	Eveleth	Burfiend, G. H.	Afton	Cross, Jno. G.	Minneapolis
Barness, Nellie	St. Paul	Burnap, W. L.	Pelican Rapids	Crowe, J. H.	Virginia
Barton, E. R.	Frazee	Burns, Floyd W.	Watson	Crowley, J. M.	Ellsworth
Barton, G. C.	Minneapolis	Burns, Frank W.	Stewartville	Crume, Geo. P.	Minneapolis
Bass, G. W.	Minneapolis	Burns, M. A.	Milan	Cuff, Wm. S.	St. Paul
Batchelder, E. J.	New Richland	Burton, C. N.	Elmore	Cummings, D. S.	Waseca
Batcheller, Oliver T.	Brainerd	Burton, O. A.	Albert Lea	Cummings, J. H.	St. Paul
Baxter, S. H.	Minneapolis	Burns, R. M.	St. Paul	Curran, G. R.	Mankato
Bayley, E. H.	Lake City	Bushey, M. E.	Arlington	Cutts, G. A. C.	Grove City
Beach, W. A.	Mankato	Butchard, G. N.	Hibbing	Dahl, G. A.	Mankato
Beadie, W. D.	Windom	Byrnes, W. J.	Minneapolis	Daignault, Oscar	Benson
Beard, R. O.	Minneapolis	Caine, C. E.	Morris	Dampier, C. E.	Crookston
Beaty, J. H.	St. Cloud	Cameron, J. A.	St. Paul	Daniels, J. W.	St. Peter
Beck, W. M.	Hanley Falls	Campbell, E. P.	St. Paul	Danielson, Karl A.	Litchfield
Beckley, F. L.	St. Paul	Campbell, J. E.	South St. Paul	Darling, W. H.	St. Peter
Beckman, E. H.	Rochester	Campbell, R. A.	Minneapolis	Darrow, Daniel C.	Moorhead
Beebe, Warren L.	St. Cloud	Cannon, Charles M.	St. Paul	Dart, L. O.	Minneapolis
Behrens, B. M.	Minneapolis	Carlaw, C. B.	Minneapolis	Daugherty, E. B.	Duluth
Beise, R. A.	Brainerd	Carman, J. M.	Detroit	Davis, E. J.	Minnehaha
Bell, J. W.	Minneapolis	Carpenter, G. S.	Porter	Davis, H. S.	Duluth
Belsheim, A. G.	Aitkin	Carr, E. M.	Pipestone	Davis, F. U.	Fairbault
Belt, W. E.	Dodge Center	Carrell, F. A.	Rushmore	Davis, F. W.	Kasson
Benepe, L. M.	St. Paul	Carson, J. H.	Duluth	Davis, H. W.	St. Paul
Benham, E. W.	Amboy	Cary, H. E.	Minneapolis	Davis, J. P.	Hammond
Benjamin, A. E.	Minneapolis	Casseday, F. F.	Rosemount	Davis, L. A.	Dalton
Bennion, P. H.	St. Paul	Cassell, H. E.	Litchfield	Davis, William	St. Paul
Benson, O. O.	Sacred Heart	Cates, A. B.	Minneapolis	Davison, P. C.	Clara City
Bergquist, Karl E.	Cokato	Catlin, T. J.	Waukenabo	Day, L. W.	Minneapolis
Berthold, J. L.	Perham	Cavanaugh, J. O.	St. Paul	Day, W. A.	Sparta
Bessessen, A. N.	Minneapolis	Chamberlin, J. W.	St. Paul	Dearborn, B. S.	Minneapolis
Bessessen, W. A.	Albert Lea	Chambers, W. C.	Owatonna	Dennis, W. A.	St. Paul
Bettingen, J. W.	St. Paul	Chamberlin, W. A.	Waseca	Denny, C. F.	St. Paul
Bigelow, C. S.	Dodge Center	Chapman, O. S.	Minneapolis	Denniston, C. H.	Crookston
Bigelow, Edward E.	Owatonna	Chapman, T. L.	Duluth	Deslauriers, A. A.	Duluth
Binder, G. A.	St. Paul	Chapman, W. E.	Litchfield	Desmond, M. A.	Akeley
Bishop, C. W.	Minneapolis	Chapple, Chas. L.	Rochester	Detling, F. E.	Duluth

Deziel, G. Minneapolis
 Dickman, L. A. Lismore
 Dimmitt, F. W. Red Wing
 Dinwoodie, Wm. St. Paul
 Disen, C. F. Minneapolis
 Dodge Franklin A. Le Sueur
 Dolan, C. P. Worthington
 Donaldson, C. A. Minneapolis
 Donovan, J. J. Eden Valley
 Dougherty, J. P. Wabasha
 Doxey, George L. Edgerton
 Drake, F. A. Lanesboro
 Drechsler, H. St. Paul
 Dredge, H. P. Sandstone
 Drenning, F. C. Duluth
 Driesbach, N. Minneapolis
 DuBois, Julian A. Sauk Center
 Dudley, H. D.
 Cananea, Sonora, Mexico
 Dugan, R. C. Eyota
 Dulude, S. Winsted
 Duncan, Henry Marietta
 Duncan, W. T. Fergus Falls
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 Franklin, A. J. Blue Earth City
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 Freeman, J. P. Glenville
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 Gambell, H. W. Madison
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 Gerber, Lou M. Jasper
 Geromo, Chas. Balaton
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 Gibson, C. P. Redwood Falls
 Giere, E. O. Madison
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Van Slyke, F. W. St. Paul
Van Valkenburg, B. F. Long Prairie
Von Berg, J. P. Albert Lea
Valin, H. D. St. Peter
Vanderhorck, M. P. Minneapolis
Vieregge, J. A. St. Paul
Vigen, J. G. Fergus Falls

Vinje, Syver. Hennings
Vrooman, F. E. St. Francis
Wakefield, Kee. Hutchinson
Wakefield, Wm. Lake Benton
Wald, R. H. Hastings
Walker, A. E. Duluth
Walrath, Belle M. St. Paul
Walther, E. St. Paul
Wang, A. M. Minneapolis
Wanous, E. Z. Minneapolis
Warham, Thos. T. Minneapolis
Warren, F. S. Faribault
Watson, Charles W. Boyd
Watson, F. G. Clarkfield
Watson, J. A. Minneapolis
Watson, John. St. Louis Park
Watson, N. M. Red Lake Falls
Watson, T. R. Zumbrota
Wattam, G. S. Warren
Way, O. F. Clairmont
Webster, H. E. Duluth
Webster, I. D. Mankato
Wedge, A. C. Albert Lea
Weeks, L. C. Detroit
Weir, J. D. Beardsley
Weiser, F. R. Windom
Weiser, G. B. New Ulm
Wellcome, J. W. B. Sleepy Eye
Wellner, G. C. Red Wing
Wells, E. E. Stillwater
Werner, O. S. Lindstrom
Wesbrook, F. F. Minneapolis
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Wheaton, C. A. St. Paul
Whetstone, Mary S. Minneapolis
Whipple, C. D. Minneapolis
Whitacre, J. C. St. Paul
Whitcomb, E. H. St. Paul
White, S. M. Minneapolis
Whiting, Arthur D. St. Cloud
Whitman, A. F. St. Paul
Whitney, A. W. St. Paul
Whittemore, J. G. Donnelly
Whittemore, N. K. Elk River
Wiedow, Henry. Worthington
Wilcox, F. L. Walker
Wilcox Van H. Minneapolis
Wilkinson, J. C. Red Lake Falls
Wilkowski, C. W. Faribault
Williams, A. B. Willmont
Williams, C. St. Paul
Williams, C. W. Minneapolis
Williams, H. L. Minneapolis
Williams, Jno. Lake Crystal
Williams, Leon A. Slayton
Williams, Robt. Alden
Williams, R. V. Rushford
Williams, U. G. Minneapolis
Wilson, L. B. Rochester
Wilson, W. Northfield
Wilson, W. F. Lake City
Wiseman, R. L. Pine City
Witham, C. A. Minneapolis
Witherstone, H. H. Rochester
Witherstone, W. H. Rochester
Withrow, M. E. International Falls
Wolner, O. H. St. Cloud
Wood, D. F. Hanska
Wood, F. S. St. Paul
Wood, H. G. Blooming Prairie
Wood, William S. Blooming Prairie
Woodard, F. R. Minneapolis
Woodruff, C. W. Chatfield
Woods, E. A. Clear Lake
Woodworth, Elizabeth. Minneapolis
Workman, H. M. Tracy
Workman, W. H. Tracy
Wright, C. B. Minneapolis
Wright, C. D. Minneapolis
Wright, C. O. Luverne
Wright, F. R. Minneapolis
Wylie, A. R. T. Faribault

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Zimbeck, R. D. Montevideo

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Davis, E. J. Minnehaha
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CASES OF APPENDICITIS ILLUSTRATING SOME COMMON MISTAKES IN DIAGNOSIS*

BY ARTHUR T. MANN, M. D.

MINNEAPOLIS

This paper will include three sets of cases which have come under the observation of the writer sometime during their course. The first series of cases presents symptoms of an acute indigestion, and were treated under that diagnosis.

A patient, previously well, walked into a physician's office on a Saturday, complaining of some moderate, crampy pains in the abdomen. She said she had had them occasionally since the night before, and had been feeling a little out of sorts for the last three or four days. There had been occasional slight nausea during the morning but no vomiting. The patient's temperature was only a little above normal, and after asking a few careful questions the doctor decided that the patient was having a moderate attack of acute indigestion from an indiscretion of diet, and wrote a prescription for her and sent her home. On Sunday his patient was a little worse and sent for him. As she had had no movement of the bowels he ordered a cathartic, which resulted in some crampy pains but no movement. Monday she had a sudden turn for the worse with symptoms of collapse. The temperature dropped a little below normal. The abdomen steadily enlarged, became tender all over, and was tympanitic. No mass was felt, but the abdomen was moderately rigid, especially across its lower half. The face wore an anx-

ious, drawn expression, and the pulse became small, soft, and rapid, reaching 140 during the evening. The patient vomited two or three times during the day. During the night the pulse kept climbing until it was difficult to count it; the skin of the hands and feet became cold and clammy, and the patient passed away in the early morning. The writer was called in just before her death, too late to do anything. The case was undoubtedly one of acute appendicitis with probable gangrene or perforation of the appendix. No autopsy was allowed.

In another case one of our city physicians was called to a patient in the evening for some crampy pains in the abdomen accompanied by nausea. The pulse was 78, and the temperature was normal. The patient had been previously well for years. After some examination of the abdomen, which was moderately tender all over, the physician made a diagnosis of acute indigestion with colic from an indiscretion in diet. He left orders for hot applications to the abdomen and a cathartic, and saw the patient again the next morning, when the patient still had some pain, but felt a little better and had had a moderate movement. He continued the hot applications and gave a mild opiate. During the day the patient was less uncomfortable, but the pains increased again during the late afternoon and early evening, and after talking things over with his wife he insisted on a consultation. The writer

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was called in that same evening. He found the patient with some fairly constant, moderate pain, distributed pretty generally over the abdomen but rather more marked about the umbilicus. The abdomen was slightly tender all over on light palpation, but was not rigid. On deep palpation there was exquisite tenderness at McBurney's point. Deep pressure in other parts developed only a slight tenderness, but a sudden withdrawal of the pressure at such points developed a tenderness at McBurney's point. The pulse was 72 and the temperature was normal. The patient had not vomited. The diagnosis of an acute, unruptured appendicitis was made, and an early operation was advised. This was done by the writer within thirty-six hours of the beginning of the attack. An appendix, swollen to the size of a little finger, was found intensely congested, with hemorrhage infarcts scattered throughout the entire mucosa, and with the lumen filled with thin pus. At one thin discolored spot near the base it was almost ready to rupture.

In another case a patient twenty-four years of age had been ill three weeks under a diagnosis of acute gastritis and with the following history: After an indiscretion in diet the young man, previously well, had an attack of sudden pain in the upper abdomen of medium severity with exacerbations, followed by vomiting. The vomitus at first was the food he had eaten and later watery stomach secretions with some mucus and a little bile. While the general abdomen was somewhat tympanitic and slightly tender there was no noticeable rigidity of the muscles. The temperature at the beginning was normal, but later fluctuated between 99° and 101° with a pulse 78 to 90. The vomiting continued at intervals during the first week not much influenced by the remedies used. After that there was only occasional vomiting. The conditions in the abdomen seemed to remain about the same as at first. Enemas were used to keep the bowels open. During the second week the temperature occasionally ran to 102°, but this had subsided again to 100° and 101°. The question of typhoid fever was considered, but there was no Widal reaction, no enlarged spleen, and the picture of the case did not seem quite right for typhoid, so that the case was still considered an obstinate case of acute gastritis. No leucocyte count was made. The patient was taken to the hospital for closer observation, and put in the service of another of our good medical men who could get no nearer to a diagnosis than the slow convalescence from an obstinate attack of acute gastritis with some possibility of an obscure typhoid fever. The patient ran down

in weight, but did not vomit, and the general abdominal tenderness seemed to be improved; the bowels were still costive and required enemas and cathartics. The patient seemed to improve during the fourth and fifth weeks, but again lost ground during the sixth week, toward the end of which his temperature ran up to 102°, and he began to have rather frequent micturition, as though a cystitis had developed, but examination of the urine was negative. At this point the writer was called in consultation. The patient showed the effects of his prolonged illness, had a severe typhoid appearance, was emaciated to a moderate degree; pulse between 85 and 100; temperature running 100° to 102° every afternoon; no nausea; abdomen negative, save in the lower part where a rounded mass presented like an overfull bladder, moderately tender, with slight rigidity of the abdominal muscles. A rectal examination disclosed a fairly rigid induration filling the pelvis from side to side and extending upward from the level of the prostate continuous with the rounded swelling above the symphysis. The amount of pelvic induration indicated a pus collection. With no symptoms of a typhoid perforation and no other plausible source of infection the history pointed to an appendicitis with an abscess in the pelvis, and an operation was advised. This was performed by the writer two days later, and the necrotic end of an appendix was found to be the cause of the pus collection.

The next series of cases present symptoms of obstruction of the bowel, and were treated as such by their physicians.

The first case was a waitress, eighteen years old, whose previous history was negative. Tuesday noon she ate some canned salmon. Ten minutes later she felt uncomfortable and had nausea with some pain and occasional colic through the afternoon, but there was no vomiting until evening, when she thoroughly emptied the stomach of partially digested, bile-stained food. Her physician was called, and thinking the trouble was what it seemed to be, he gave her cathartics to empty the bowels of what poisons they might still hold, and ordered hot applications to the abdomen, which seemed tender pretty well all over. There had been no movement by the next morning, and the doctor himself gave her a high enema with almost no result. He repeated the cathartics without result, and the next day again repeated the high enema with no result. The general condition of the patient was about the same; pulse a little accelerated, temperature 99° F., tongue coated, appetite gone, abdomen moderately tender. The doc-

tor now felt confident that the trouble was not from the salmon, and especially as other girls who had eaten of it at the same time were not affected. He made a diagnosis of obstruction of the bowels. This was Thursday, forty-eight hours after the beginning of the attack. The patient had settled down to moderate abdominal pain and tenderness, temperature and pulse only slightly above normal, occasional nausea but not vomiting, mental action good but patient tired. The abdomen was slightly enlarged and moderately tympanitic. During the fourth day enemas brought no result; the patient vomited once or twice, had a slight elevation in pulse and temperature, was more tired, abdomen a little more distended but not much. The fifth and sixth days brought no movement from the bowels. The patient gradually growing weaker, pulse smaller, softer, 110 the fifth, running to 120 the sixth day; temperature 100.5° the fifth and 102° the sixth afternoon. Abdomen now much distended, tympanitic, tender all over, exquisitely tender in the lower half. Impossible to make a deep palpation on account of great tenderness; abdomen not rigid on light palpation, but a light touch on the abdomen caused visible peristalsis. Vaginal and rectal examinations revealed nothing new. The patient had vomited only slightly two or three times, but the face looked pinched and anxious. Such was the condition when the writer was called in late Sunday afternoon. The forehead and hands were cold and clammy, and it was apparent that the patient was in a grave condition.

It was evident that the diagnosis of obstruction of the bowels was insufficient as a diagnosis. We must find the cause of the obstruction, as well as explain the symptoms and physical findings. The onset of the symptoms was too slow, and the vomiting was not early and persistent enough to be due to a mechanical obstruction, such as from a strangulated hernia, band or cord, a knot or twist in the bowel, an intussusception or a Meckel's diverticulum. Furthermore, there were signs of a peritonitis in the lower half of the abdomen. The causes which naturally suggested themselves for this were infected tubes (probably gonorrheal) with a spreading peritonitis, a ruptured extra-uterine pregnancy, probably with sepsis added, or an obscure appendicitis. A blood-count showed a twenty-thousand leucocytosis, and settled it in favor of an infection from some source. Gonorrhea was absolutely denied, and there was no vaginal or urethral discharge. Pregnancy was also emphatically denied, and the history of the symptoms was

against it. This left appendicitis as the probable diagnosis.

Operation showed the pelvis and lower abdomen full of a foul-smelling pus, with the tip of the appendix gangrenous and perforated. The loss of toxins through the abdominal drainage steadied the patient for a few hours, so that she improved a little, but the load had been too great for her, and she gradually faded away within twenty-four hours.

The next case is a boy of thirteen years with mild obstructive symptoms lasting one week before the writer saw him. The first day the patient felt out of sorts, did not want to play, did not have much pain, but was uncomfortable; began to refuse his food; had no movement of the bowels, but did not vomit until the second day, and then only once or twice a bile-stained vomitus. By the third day there was still no bowel movement; some nausea but not vomiting; abdomen began to feel a little full; occasionally there was moderate colicky pain. There was not much distress, but some slight general abdominal pain. His physician was then called and found a pulse of 100, a temperature of 99.5° , the tongue coated, some nausea, abdomen moderately distended, slightly tender all over but not markedly so; no bowel movement for four days. A diagnosis of obstruction of the bowels was made, and cathartics were given. On the next day the doctor found that there had been no bowel movement. The abdomen was a little more prominent with a little more general tenderness and with occasional slight cramp-like pains. Abdomen tympanitic; some nausea; patient had vomited once, vomitus bile-stained; pulse 108, temperature 100° . An enema brought away a small amount of fecal material. On the fourth and fifth days conditions were about the same with the patient not in as good condition. The patient had vomited only once during the last two days; tongue coated, brownish and dry; bowels still blocked. The sixth day the general condition was still worse; pulse running 115 to 125, temperature 101.5° ; patient vomited slight amounts two or three times, bile-stained; tongue dry and brown. On the seventh day the patient's general condition was poor; bowels had not moved for a week in spite of cathartics; patient vomited occasionally, vomited easily and in small amounts; vomitus bile-stained; abdomen distended, tympanitic, tender all over; pulse 130, temperature 102° . This was the condition when the writer first saw the patient. At this time it was fairly easy to make a diagnosis of an inflammatory condition inside the abdomen. The consequent paralysis of peristalsis would easily account for the symptoms of obstruction.

The presumption was in favor of appendicitis as the cause of the peritonitis. Operation showed an abscess containing about eight ounces of pus walled off by bowel adhesions, and extending from the median line to the cecum. This contained the gangrenous and perforated end of the appendix. Recovery took place in six weeks with complete healing.

The next patient was a man forty-five years old, of good general condition, who began with symptoms of malaise, loss of appetite, and constipation. He did not call his physician until the second day, when he was still up and about, but not feeling at all well. He had had no bowel movement for two days, had felt a little nausea, but had not vomited; tongue coated; had no appetite; pulse 84, temperature 99°. No special tenderness was found on examination of the abdomen, though the patient complained of some abdominal discomfort. Cathartics were ordered and some general tonic. On the next day, the third of his trouble, the patient was not so well. The abdomen was somewhat enlarged, tympanitic, but only moderately tender. The patient had had no movement of the bowels; had vomited once; vomitus green and bitter; pulse 86, temperature 99.5°. The fourth day the patient had vomited twice; abdomen fairly rigid, tympanitic, and fairly tender all over; tenderness a little more marked near the middle line, and muscles inclined to show rigidity. A diagnosis of obstruction of the bowels was made, and operation advised as probably necessary. On the fifth day the writer was called. All conditions were about the same as on the fourth day except they were rather more exaggerated. There had been no bowel movement. Patient had vomited four or five times during the last twenty-four hours. The abdomen was pretty tight, tympanitic, and was moderately tender, with tenderness a little more marked near the middle line about the umbilicus as it had been the day before; pulse 90, temperature 100°; tongue dry and brownish; face anxious and looks pinched. Operation showed a large pus collection surrounded by bowel adhesions, holding at least a pint of thin, foul-smelling pus, with a necrotic and perforated appendix as the cause. This patient improved steadily until the third day after the operation when he died from hemorrhage into the abdomen, probably from ulceration into one of the epigastric vessels.

This list of cases with obstructive symptoms as well as the previous list with acute indigestion as a diagnosis could be greatly extended, but time forbids.

The third class of cases which I wish to bring up is one in which I think more mistakes

are made in the diagnosis than in either of the other two we have considered. I refer to the cases of chronic gastric and intestinal indigestion, so-called, and to cases of recurrent gastric and intestinal indigestion with more or less poor health. Many of these have proven to be cases of chronic and subacute appendicitis, the greater number of which have never led to an acute attack. The symptoms are often obscure and unless a careful and thorough search is made, and sometimes a repeated search, a correct diagnosis is never made unless a definite acute attack of appendicitis supervenes. The following is a case in point. A young man, twenty-one years old, had been fairly well and strong as a boy, but three years ago, the mother said, he seemed to change. He was no longer strong and able to do all the other boys could do. From being cheerful and sunny all the time he gradually grew to have moderately fretful periods in which he did not seem quite well, had a poor appetite, was constipated, had a slightly coated tongue, and felt uncomfortable. At times he would have what were treated as bilious attacks, in which he vomited some bitter and sometimes greenish material without much relief, but as a rule he seldom vomited. These attacks would sometimes come on after a hard play, and sometimes without any apparent cause. At first there were rather long periods in which he seemed normal, but at irregular intervals he would have the attacks, which always seemed to be due to his stomach. After a year had gone by he became rather uncertain physically. After different periods of work he would give up his place because he did not feel well. At such times he lost his appetite, had some distress in the upper portion of his abdomen, occasionally had slight nausea, was constipated, as he now was practically all the time, and he felt listless and unable to go to much exertion. During the next year a rather mild condition of this sort was present more and more. All this time what treatment he had was given him under the diagnosis of indigestion. The boy was in fair flesh and looked well most of the time, but became tired easily. His mother spoke of him as "not strong." Along in the middle of the third year there was an attack sharper than any he had ever had before. There was rather severe abdominal pain in the epigastrium, fairly constant with moderately acute exacerbations, followed by nausea and vomiting, which became bile-stained before it ceased. This was accompanied by fever, constipation, a coated tongue, and by constant prostration. The patient was in bed over three weeks and quite ill. Here for the first time there was something which

looked like appendicitis. For the next six months he was about as before, not quite able to work, but his discomfort was present more of the time. At the end of this period the writer saw him for the first time in one of his subacute attacks, which seemed to be increasing in severity, and consent to operate was obtained.

A short appendix was found completely buried by adhesions, partly obliterated in its upper half by scar tissue, and with one drop of pus in the adhesions at an angle formed by the scar-tissue in the appendix. The patient drained a little pus two weeks and a half, and made a fairly good convalescence from the immediate operation. He had some moderate attacks of pain simulating the old attacks, but these grew less and less during the nine months which followed, while the patient gradually grew stronger and more like himself until he became strong and well and able to work continuously, and has remained so for over two years.

It seems characteristic of some of the cases with adhesions that pains simulating the old pains persist for a time, but in a few weeks or a few months gradually fade away. These are doubtless largely due to new adhesions which bind the cecum down and which later gradually stretch until the bowel hangs free. Besides this the bowels have often acquired some bad habits of digestion which they must gradually lose.

Many of these cases of supposed indigestion are very obscure and never work out as clearly as the one just given. The following is a case in point: A young salesman of twenty, always well and unusually wiry and strong, came into the office because of a mild attack of indigestion. He said that for the last week he had not felt just right, and for the last three days had had an uncomfortable sensation just above the umbilicus, not amounting to real pain; his food did not seem to sit quite well; he was constipated about all the time; his tongue was coated, and he did not feel able to keep at work. He said he had felt pretty much the same way for the last three months, and had left his trip on the road several times to come back home and rest up. Treatment for indigestion and debility gave him only slight relief. Closer questioning developed the fact that he had had similar attacks off and on for more than six months, but that during the last three weeks he had almost come to the conclusion that he must give up his position on account of poor health and debility, a condition which he could not at all account for. On examination he was well developed, muscular, but rather spare; had fairly good

color, tongue coated; pulse and temperature normal. On physical examination he was apparently normal except for a slight tenderness in the abdomen, developed only on deep palpation, over McBurney's point. No further points of importance were discovered on cross questioning, and a diagnosis of chronic appendicitis was made, and operation advised. This was accepted, and an appendix less than half the normal size was found, showing a chronic, obliterative appendicitis. This patient healed, and left the hospital on the ninth day, but like the case previously given had some pains and some sensations for a few weeks, reminding him mildly of his previous attacks, but he steadily improved until at the end of three months he was well and strong, and he has remained so up to the present time, nearly a year.

The next case was that of a young woman of twenty-three. She had a history extending over a period of two years. Chronic constipation was her most constant symptom, but she had noticed that since two years before she had not been well and strong and able to work as she used to work. She had had frequent attacks of indigestion in which she often had some slight abdominal distress, with perhaps slight nausea, some discomfort from food, a coated tongue, and a feeling of being generally out of sorts. She had been treated by different physicians for indigestion and constipation, but with little change for the better. Of late she was getting almost to despair of ever being well. Then she fell into the hands of one of our internal-medicine men who sent her over to me to confirm his diagnosis of chronic appendicitis. On physical examination the tubes, ovaries and uterus were normal, and everything else seemed negative except a moderate but constant tenderness over the region of the appendix developed on careful, deep palpation. Operation was advised and accepted. The writer found a small appendix of the chronic, obliterative type. The patient left the hospital healed on the tenth day, but like the two cases last given had some discomfort at times reminding her of her old trouble for a few weeks, but gradually reached a rosy health, lost her constipation, and has remained well for a year and a half.

A number of other similar cases could be given, but we shall omit them in order to give a brief discussion of some of the points which have been raised.

In all three classes of cases which have been given, the ability to handle them any better depends upon the question whether we can make the diagnosis soon after the onset of the initial symptoms. We wish to emphasize the

fact that in the vast majority of the cases one can make the diagnosis early in the attack.

First, we must throw out of consideration the pulse, the temperature, and the blood-count, except where these are a positive aid to diagnosis. We know that the temperature is exceedingly misleading, that the pulse tells us something about the patient's general condition, but that it is unreliable for diagnosis, and that both of them in some cases give absolutely no information as to the gravity of the process going on in and about the appendix. The blood-count is usually positive only when there is free absorption from an active abscess not well walled off.

Further, we know that of the three cardinal symptoms,—pain, tenderness and rigidity,—too much emphasis must not be put on the site of the pain. Intestinal pains are not well localized. The intestines do not seem to have nerves which commonly localize sensations. The peritoneum, however, is certainly supplied with them. For these reasons the beginning pain of appendicitis, sharp as it may be, is poorly localized as a rule. As we know, it may seem to be spread all over the abdomen, or it may be felt strongest in the region of the umbilicus or just above it. A little later the pain tends to become localized in the appendix region. It is my belief that this is a peritoneal pain due either to the swelling of the inflamed appendix until its peritoneum is tightly stretched and sore, or to an actual extension of the inflammation until the peritoneum has become involved. It is at this time that the muscles stiffen to protect the tender parts below, and we have our "board-like rigidity" a little later when the stiffness becomes marked.

If we are able to make a diagnosis at all, the localized tenderness at or near McBurney's point, that is, over the base of the appendix, is the symptom on which we rely the most. There is very little variation in the point at which this tenderness is found, no matter in what direction the appendix lies. However, in a few of the cases the location of the tenderness is sometimes misleading. These are usually a few of the cases in which the appendix points south or southeast, and lies in the pelvis, and a few of those in which it points north or northeast, and either lies behind the cecum and is retroperitoneal or lies above the cecum and extends toward the gall-bladder.

In the first class with the appendix running down into the pelvis, while the tenderness can most often be developed at McBurney's point, it sometimes can be developed best by a finger in the rectum or in the vagina, and in some cases we find the point of tenderness on the

wrong side of the abdomen, in the left iliac fossa. This last is hard to explain, but it has been observed a number of times. It is much more easy to explain a left-sided tenderness when a long, sore appendix lies across the median line to the left, or when an abscess has run across through the narrow neck and has its greatest accumulation on the left.

In the second class, when the appendix is behind the cecum, the point of greatest tenderness is sometimes an inch and a half to two inches above McBurney's point; sometimes it can be developed best by pressure through the muscles of the loin; sometimes it is impossible to develop any point of tenderness on account of the board-like rigidity of the muscles, both front and back, and the deep-seated position of the appendix. When the appendix points north or northeast the point of tenderness is occasionally so near the gall-bladder region that it may take our keenest efforts to make a differential diagnosis between appendicitis and disease of the gall-bladder and ducts. However, we can remember that an appendix will often develop a tenderness over its base even though the diseased portion is toward its tip.

With the experience of the past few years the whole profession is becoming able to make the diagnosis of appendicitis more and more early in the attack. We have realized for a long time that it is not necessary to wait until the signs of pus are present before making the diagnosis, and we have more recently awakened to the fact that it is not necessary to wait for rigidity of the muscles over an inflamed appendix. This rigidity may come on fairly early, or it may come later. It does not develop, as a rule, until the abdominal pain, which at first has been general or about the umbilicus or epigastrium, begins to be localized in the region of the appendix.

If we are not called in until this rigidity has developed, we are sometimes unable to palpate deep enough to touch the sore appendix, but we know that the tender point must be there because the muscles have become rigid simply to protect it, and we can make our diagnosis in most cases just as well as though our fingers reached the tender spot. If we see our case early, with a history of some abdominal pain and a tender point over the appendix, the diagnosis is practically sure. This part of the examination must be carefully done. After the confidence of the patient is gained the examiner's hand should begin in the middle line near the umbilicus, letting the fingers sink down slowly toward the back of the abdomen with the fingers a little less than flat against the wall they are carrying before them, until

they meet with a little resistance from the back wall; then working outward and downward in slow wave-like sweeps of the hand, the parts within slip piece by piece beneath the fingers and the examiner recognizes them as they go. In this way a moderately enlarged appendix may be rolled beneath the fingers. Sometimes even a normal-sized appendix can be plainly felt in a favorable subject. At any rate, in practically every case a sore appendix will reveal its presence by giving a point where the pressure causes more or less exquisite pain to the patient. The writer has found it of material aid in this examination to let the fingers of the other hand drop down upon the examining fingers somewhere near their ends, and exert nearly all the pressure that is used, leaving the examining fingers less rigid and therefore more free to recognize the parts below.

In regard to the cases of appendicitis which simulate obstruction of the bowels, usually the symptoms are somewhat indefinite and misleading in the beginning. There is abdominal pain which may not be well localized, which

is fairly sharp, and is somewhat irregular at first, though it may be pretty constant later on. There is usually a moderate temperature, and the pulse runs up as the condition progresses. Nausea and vomiting come on after the first few hours, are usually not severe at first, and usually are quite irregular in occurrence; they may almost stop after a time and then begin again. Meantime an enema may bring away a small bowel movement, possibly once or twice and then no more, but if one is rash enough to give cathartics there is no result. The vomitus becomes watery and bile-stained, and often remains so to the end.

In true intestinal obstruction the onset is more sudden; the vomiting comes early, is persistent and uncontrollable, and it soon becomes fecal; the obstruction is early and complete, and there is inability to pass flatus; the pain is usually more severe than in the appendicitis cases and apt to be remittent rather than cramp-like. The temperature is about normal or is subnormal until a peritonitis begins at the site of the obstruction.

SOME RECENT VIEWS CONCERNING BRIGHT'S DISEASE*

BY LESTER W. DAY, M. D.

MINNEAPOLIS

About a year ago Dr. Alfred Croftan, of Chicago, drew my attention to the new conception of Bright's disease and kindly sent me several monographs bearing upon the subject. These I have used freely in this paper wherever I thought that you would be the gainer, and I offer this as my only apology to both you and Dr. Croftan. I find that during the past two or three years numerous articles have appeared in English, all telling practically the same thing and going back to German and French investigators for their authority.

The modern conception of Bright's disease differs radically from that described by Bright, for Bright held that the disease was primarily a disease of the kidney, and as a result of renal inadequacy certain toxic products are retained that produce the cardiovascular changes and the eye and brain symptoms.

According to the modern conception the determining feature of Bright's disease is high arterial tension with resulting cardiovascular changes. The latter lead to nutritional disorders

in various parts of the body and particularly in those organs that are supplied by end arteries, namely, the kidneys, retina, and brain.

That the old view is untenable we know, for many cases of Bright's disease occur in which the kidneys are not involved until very late in the course of the disease, long after cardiac hypertrophy, retinitis, albumiuria, and brain symptoms have appeared. But supposing this old view to be correct then (1) complete anuria should always produce uremia, (2) the blood of uremic patients should always show an increase, and (3) the urine should always show a corresponding decrease of urinary substances.

Taking these three hypotheses in order, we find, first, in forty-one cases of complete suppression of urine, collected by Herter, convulsions occur in only five cases, headache in only six, and vomiting in only twelve. Most of these patients for days complained of nothing more than a feeling of extreme lassitude, death resulting suddenly from heart failure. Surely, these are not typical cases of uremia, and it seems like begging the question when we call them examples of suppressed uremia. On the

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other hand, uremia frequently occurs when the flow of urine is abundant, and the excretion of urinary solids and water does not appreciably deviate from normal. Again, individuals with cystic and tubercular kidneys, with almost complete loss of kidney substance, die, but do not become uremic. Again, animals dying as the result of injecting urine into their blood present a different symptom-complex from those dying from uremia, namely, that of urinemia. While uremia presents many of the symptoms of urinemia, in urinemia the most characteristic symptoms of uremia are absent, thus forcing us to the conclusion that uremia must be produced by other factors than simple retention in the blood of substances that should have been excreted in the urine.

Recently a tremendous amount of quantitative chemical work has been done upon the blood and urine of uremic patients with absolutely negative results, for—

1. As many cases of uremia develop without as with an abnormal accumulation of nitrogenous constituents in the blood.

2. We find uremia when the nitrogenous waste-products of the blood are below the normal average; inversely, we often fail to witness the appearance of uremia when the accumulation of these products in the blood is high above normal.

3. Similar conditions are found in the urine, namely, that uremia may occur when the nitrogen output is increased, normal, or diminished, as compared with the normal. Finally, many cases of true nitrogen retention are on record in which uremia failed to occur, thus disposing of all three of our hypotheses. But when we come to consider separately the various nitrogenous bodies found in the blood and urine of uremic patients we find—

1. A relative increase of the ammonia salts, both of the blood and the urine as compared to normal average values and as compared to the circulating and excrementitious urea.

2. A relative decrease of the urea both of the blood and urine as compared to average normal values and to the total nitrogen contained in circulating and excrementitious nitrogenous waste-products.

It has also been found (1) that uremia often occurs when the salt values of the blood are normal or under normal, and (2) that uremia need not occur even when the increase of salts in the blood and corresponding decrease in the urine are very marked. This disproves the theory of Lindemann.

Thus we see that the retention of neither the nitrogenous bodies nor of the salts that normally occur in the urine produces uremia.

So far, we have advanced the hypothesis that high arterial tension ushers in every case of Bright's disease, have denied that the kidney is the primary seat of Bright's disease, have disproved the retention theory of the past, and have shown a relative decrease in the amount of urea found in both the urine and the blood and an increase in the ammonia salts both in the urine and the blood.

If these things are true, then there is a radical difference between Bright's disease and acute nephritis, which latter may be produced by the chilling of the body, by the toxins of scarlet fever, malaria, typhoid, or some such chemical irritant as turpentine. In the former, the changes may not occur in the kidney until long after changes in the eyes and brain have been noted, while the nephritis mostly run their course without an involvement of the heart, arteries, retina, or brain, though these and other organs may become affected in consequence of a general toxemia. It is unfortunate, therefore, that, with the changes in our conception of the disease, we did not also change its name, for to-day we can speak without tautology of the nephritis of Bright's disease. In retaining the name we are only following out the custom of the physiologist, histologist, and pathologist, of calling a thing by the name of the man who first misunderstood it.

There is a growing belief to-day that the high arterial pressure that ushers in every case of Bright's disease is produced by circulating toxins, which are derived from the abnormal breaking down of albumin, either in the intestine or in the tissues at large.

A number of pressure-raising principles have been isolated from putrid bowel-contents. Also many of the intermediary products of metabolism have the power of raising the blood-tension. As a result of intestinal putrefaction toxic albuminoids and alcoholoids are generated, which are carried by the lymphatics to the liver, where they should normally be arrested or disinfected. An overwhelming mass of putrefactive material flooding the cells at one time, or small quantities continuously irritating them, impair their function. In consequence intestinal toxins filter through into the circulation beyond, and can there exercise their deleterious effects on the heart, the arteries, and the kidneys. Furthermore, in consequence of the impairment of the liver-cells they are unable to transform the ammonia salts into urea, hence it is that there is so often found a deficiency in the urea in the blood and urine and a corresponding increase in the untransformed precursors of urea. That the general metabolism of albumins in particular is perverted in uremia, is further manifested by

the frequent appearance of acidosis in terminal uremia and in pre-uremic states; in fact, an acid intoxication must be incriminated as producing many of the fulminating signs of uremic as well as of diabetic coma.

One explanation of the increased excretion of ammonia is, that it is nature's way of counteracting the chronic acidosis, thereby maintaining the alkalinity of the body fluids and tissues. The ammonia salts formed in this way are sacrificed at the cost of urea; hence, more ammonia salts and less urea in the blood and urine of uremic cases. As urea is the most powerful physiologic diuretic, the flow of urine is at the same time often reduced. So, then, Bright's disease, according to this new etiology, is a toxemia, presumably of intestinal and, by implication, of hepatic origin, involving, primarily, the cardiovascular apparatus and, secondarily, many organs of the body, including the kidney.

The manifold factors that may precipitate an acute attack of uremia in an individual suffering from hepatic insufficiency (pre-uremia), need not be enumerated in detail. The determining insult may be severe, as, for instance, some virulent infection or intoxication (chloroform anesthesia) suddenly throwing a mass of work on the liver or causing degeneration of its cells, or it may be that an attack of gastric or enteric indigestion, or merely some psychic or emotional shock acutely deranges the liver-function.

Treatment.—With the retention theory of Bright's disease as a basis, flushing the kidneys with large quantities of water, medicinal diuretics, purging, and sweating with the idea of ridding the body of its poisons, would naturally be the first thing attempted; but with our present conception what could be more irrational? There is no evidence that the sweat or urine of uremic cases is more toxic after using diuretics and diaphoretics than before. Physiology teaches us that sweat is composed of water, sodium chlorides, fatty acids, and some urea, and no one has ever isolated from sweat any of the toxic albuminoids about which we have been speaking. On the other hand, it would be just as rational to treat an inflamed joint or tendon with exercise as to force an inflamed kidney to work with diuretics. Furthermore, if we do succeed in increasing the quantity of water eliminated by the kidneys we have merely lowered the specific gravity without having increased the total quantity of solids eliminated. Again, if our contention, that increased arterial pressure is the cardinal symptom of Bright's disease, is true, then the absorption of large quantities of fluid must necessarily raise the arterial tension and furthermore aggravate the symptoms.

How differently should we treat our patient to-day bearing in mind the new etiology?

Rest in bed, rest for the liver, causal treatment must be directed toward the digestive disorders, provided that any digestive disturbances can be demonstrated. Most important is the prevention of intestinal putrefaction, best done medicinally by the use of sulphocarbolate of zinc or sodium glycolate, given in small repeated doses until the stools cease to react to bismuth subnitrate. The symptomatic treatment consists in the treatment of the heart and arteries by means of cardiac tonics and of vascular dilators. Digitalis, one drop of the tincture, t. i. d., slows and regulates the heart-beat, and can be thus given for months without harm. In Bright's disease, when myocardial changes threaten, the Schott treatment is of very great benefit. Nitroglycerine or, still better, erythrol tetranitrate (gr. $\frac{1}{2}$ -1) is the orthodox remedy for reducing the blood-pressure, causing a continuous vasodilatation.

One should daily measure the amount of water eliminated by the kidneys, and administer water by mouth accordingly. To try to force water through the kidneys is to irritate them, three pints being sufficient to maintain equilibrium. Starvation for a few days when uremia threatens is imperative, offering the liver and kidneys the best chance to rest. After that we should regulate our generosity according to the probable duration of the attack. The greater the chronicity of the disease the more liberal should we be, remembering that, in order to maintain our body-equilibrium, one should eat thirty calories per kilo. Bread, butter, milk, and cream are as strict a diet as I would ever deem necessary. Van Norden gives three pints of whole milk to which one and one-half pints of sterilized cream have been added. This has a nutritive value of 2,000 calories. To this he adds gruels and fruit juices. In the more chronic cases there is no reason why a mixed diet should not be allowed, provided the articles are readily digested. In this connection it is well to bear in mind the reduced tolerance for carbohydrates with alimentary glycosuria that uremic patients frequently exhibit. Also one would naturally exclude such articles as beef-extracts because, first of all, they contain little or no nourishment, and, secondly, because the extractives are hard to eliminate.

Van Norden, in cases of chronic interstitial nephritis, allows three glasses of milk, two eggs, the average amount of vegetables, and one-half pound of lean meat (weighed raw).

The tide has turned against an exclusive milk diet because, in order to maintain bodily equilibrium, enormous quantities must be given, thereby giving an excess of albumin and an excess of

The sick person not only loses his self-control, but, because he has nothing to think about but himself, he becomes morbidly self-conscious, timid, irritable, and exacting. The family is helpless in the presence of such conditions, because in the average household there is so little sickness that its members have no opportunity to become expert in the care of the sick, or even to attain ordinary familiarity with the details of sick-nursing. The nurse should not only be trained in the details of personal service, but, to be successful, she must also learn to think and act for those who can not think and act for themselves. It should be constantly borne in mind that in this, as in any other kind of effort, the one who succeeds is the one who knows how. In order that she may know how she must be trained, and to be trained it is necessary that there be a place to train her, and people who know how to teach her. One of the traditions to be overcome is the belief that the desire to do is all the preparation that is necessary in nursing, and that sympathy and interest in the welfare of the patient, in some mysterious way, endows the caretaker with the capacity to do everything that ought to be done. This type of nurse mistakes her own feelings for the welfare of the patient, and is prone to not see, or to ignore, the necessities of his condition. Again, the machine-like nurse does not appreciate, or ignores, the individuality of the patient, and in spite of her technical skill fails in her mission. There is a great deal of unnecessary suffering for the want of skilled nursing, so that the lessons the trained nurse may teach, have a value outside of the immediate necessities to the physical welfare of the sick person. She may instruct those about her in the art of caring for the sick, showing them the advantage of order and method, and, above all, teaching them the futility of unnecessary effort, as well as the harmfulness of methods based only on domestic tradition and superstition.

As stated in the beginning of this paper, the writer believes that the nurse may be given as good general training in a hospital for the insane as in a general hospital. Furthermore, we believe that this training is even more thorough than that given in the general hospital, because it is under the constant supervision of the medical staff. Besides, the nature of the illness in insanity requires that the nurse shall substitute her will and intelligence for that of the patient, which is lost or clouded; and she must learn from constant observation the needs of the patient, whose condition not only prevents his helping her, but also prompts him to hinder, deceive, or resist her efforts in his behalf. To quote from the announcement of the training-school in the hospital in St. Peter: "There is

connected with this hospital a training-school for nurses of which the medical staff is the faculty, the course of instruction being carried out in a definite, systematic manner. This school exists, not merely for instruction in the rules and regulations of the hospital, and the duties of attendants in the housekeeping of the wards, but for the thorough teaching of all that belongs to the art of nursing, so that pupils graduating from this school shall be able to do general sick and surgical nursing, as well as the special work of caring for the insane.

"The object we hope to attain is the treatment of those committed to our care as sick people, not theoretically, but practically, giving to our recent cases, and those among the chronic ones who may become ill, the same careful individual medical care and nursing that patients receive in a general hospital. The advantage of this method in the care of our patients has been very great, and in the future as we are more fully able to inspire in our nurses the feeling that their service is a vocation as well as a means of livelihood, we hope to do more and better work."

We have embodied in the course of study and instruction given to pupil-nurses in the hospital the ideas formulated in this paper, as follows: The course is spread over a period of three years. The first year is given to the training of the attendant. The pupil-nurse serves four months in the wards for chronic, quiet, and well behaved patients, and she begins by learning the housekeeping of the ward, the care and supervision of the clothing of the patients, their occupation, and habits. She then goes to work in the infirmary, where she has to care for the feeble old people; and thus learns to think and act for those who can not think and act for themselves. Finally, she goes to work in the infirmary sick-ward, and learns how to take personal care of the feeble and bedridden. A part of this service is also given in the infirmary for the tuberculous, where the pupil learns the regime of disinfection and antiseptics, as applied to clothing, dishes, and utensils. She then goes to the wards occupied by the disturbed and destructive patients who are feeble. Here she is taught how to manage the patient and control his conduct. She next goes to the wards occupied by the patients who are disturbed, noisy, and violent, where she learns self-control, and the art of letting the patient alone, which is the most important and yet the hardest thing for the nurse to learn. Here she is taught the use of persistent effort, the value of silence, and why she should not be disturbed by noise and motion. She then spends four months on night duty.

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In the senior year the training is specialized and elaborated, and the nurse spends her entire time in the sick-wards in the care of recent cases. She is also given didactic instruction in special sick-nursing; dietetics and chemistry of food; massage and physical culture; general sick-nursing; and the selection of diet in disease.

We claim for this course of instruction that it is eminently practical and thorough; that there is nothing ornamental about it; that our graduates are familiar with all the details of the care of the sick and insane; that they are taught obedience, promptness, and discretion; and that their training makes them better nurses for general work than those trained in a general hospital. In other words, if we were given the same material to work with that the general hospitals have, our graduates would be in the lead, because of the character of the training, which the general hospital cannot give them. That this training means hard work for the medical staff during the school year is admitted, but this is more than compensated for by the reliability and increased efficiency of the service rendered by our nurses. Looking back over the past thirteen years during which the present system has been developing, we can see that our training school has not only trained the nurses, but has educated public opinion to the appreciation

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DISCUSSION

DR. W. A. JONES, Minneapolis.—I think I appreciate the position that Dr. Tomlinson has taken in his paper, and I also appreciate the fact that the training of the nurse in a hospital for the insane will develop more skill, more thoroughness, perhaps, and a better understanding of the sick than training in many of the hospitals that take in general cases. And I think the same condition applies to physicians as to nurses. As we all know, there are a great many physicians who are disqualified by their environment, their early training, their lack of education, and from the fact that they are not adapted to the work they have chosen, and this applies with equal force, perhaps with greater force, to the nurse.

It seems to me that nurses for state hospitals, whether for the insane or other state institutions where nurses are a part of the equipment, should be selected with the greatest care, and yet I appreciate the difficulties you labor under, and that we in the general hospitals labor under, in getting good material. It is often impossible, under the present conditions, to select the proper individual for the development of a nurse. There are so many other occupations that appeal to the semidomestic, the semi-educated individual, that the question of nursing is not considered. I think we have not yet put nursing on the high plane it should occupy. I believe that in St. Paul there is one hospital that has gone to the other extreme, perhaps, and yet has made a decided advance in the selection of nurses. They are so careful in their selection that they require that each individual applicant shall deposit \$200 to become a student or pupil in the training-school. This means that only a few, and of the best, will follow out the occupation of nursing. In our general hospitals, as a rule, and I presume in the state hospitals, it would be impossible to follow out any such suggestion to make the individual understand that she is getting something for which she must pay, that she is learning something which will do her a world of good in her future existence. We medical men must pay large fees for our instruction, and we labor, perhaps, just as hard as the nurse does, although in a different way, to acquire our degree, and I believe eventually the same conditions will apply to the nurse who enters the training-school, whether in a state or a private institution. To paraphrase the title, or the qualifications, of the nurse-applicant: It would be very much like the parody which is going on now in the Twin Cities, "The Time, the Place, and the Girl." First, the girl: Is she endowed with sufficient culture, and is she adapted to the work? These questions suggest the first problems in the selection of the applicant. This, I know, is something to look forward to and not to be considered at the present time except in discussion, yet there are a number of schools in the East, and, I believe, some schools in the West, that are making more careful selection of their applicants and getting a better class of individuals and thereby getting a very much superior order of nurses at their graduation.

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I think the time that a nurse must give to training should be considered. The present course of three years is being discussed very earnestly as to whether three years are necessary for the development of the average nurse. I think that with the material we have three years is little enough, but if we can get a better grade of pupil-nurses the time may be safely cut down to two years.

As to the place where the nurse should be trained: I think it depends wholly upon the former environment and the capabilities of the applicant. Of course there are people who are especially adapted to the care of the sick who are not insane, and there are others who are better adapted to the care of the insane, but this applies just as well to the physician. He selects his specialty. Perhaps he is interested in medicine on account of his early training and his environment, and it depends a good deal upon himself as to his future, whether he makes a success of his business or not.

Special characteristics which have been gone over so carefully and thoroughly by Dr. Tomlinson as necessary for the nurse should be embodied in the training and education of the pupil. I think every training-school should have a special department for the training of the individual in other subjects than medicine and the care of the sick. I believe that in a number of our applicants we could develop something of individuality as you develop it in some of your training-schools other than for nurses, that is, you can bring out latent conditions or develop certain characteristics which are in the individual and which are brought out by discipline and training on general subjects. I have in mind a good many nurses who are thoroughly qualified, who are capable, trustworthy and experienced, who have gone out into the world of nurses and have accomplished brilliant results. I have also in mind a number, perhaps not so large, who have gone out and who did not have the proper equipment before entering the training-school, but were rushed through the training-school, itself inadequately supplied with instructors and material for training, and who still retained their old characteristics. They are useless creatures. They do more harm in the world than good; they usurp the functions of the physician, and they cast slurs upon the profession of nursing in general. They are not suited for anything, and, fortunately, perhaps, in one direction, unfortunately in another, they are soon married and out of the way. These people are difficult to manage. They submit to a certain amount of discipline in the hospital, but during their hospital experience they are more or less trouble to their instructors. Immediately upon leaving the hospital they relax into their old conditions and they are intolerable nuisances, and it seems to me that the only way to overcome this is to educate them in diversified means and manners.

The culture of the nurse should be considered before she enters the training-school. I think this is an important matter notwithstanding the fact that there are a good many people who have sprung from the middle classes and who have had no opportunities for the development of culture, who make good average nurses. Yet, I believe, if we are going to elevate the standard of nursing and get a certain class of individuals who will be known as really trained nurses, we must look over the culture side of the individual very specifically. I know from sad experience that many of these so-called graduate nurses have forgotten their early training; they suffer from over-exaggerated ideas of their capabilities, and they simply drift into all sorts of manner-

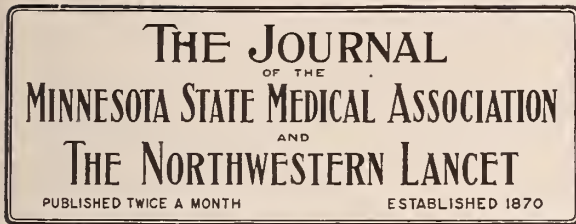
isms that are detestable, and it is impossible to confine them to any reasonable routine. They are unmanageable in the sick-room; they create all sorts of disturbances in the family and household, and soon disqualify themselves by their very attitude and lack of culture.

I believe the nurses that are sent out from the state hospitals and the general hospitals should be trained to assume responsibility. Notwithstanding the fact that the physician is able and ready to direct, there are many instances in which the responsibility must come immediately upon the nurse, and her conduct will depend largely upon her training and largely upon her personal characteristics and her ability to meet an emergency when it arises.

I quite agree with what Dr. Tomlinson said in regard to the systematic development of the training-school, and which in a general hospital is not, as a rule, taken into account; but to accomplish this we must have trained men and trained women at the head of such institutions. The unfortunate political features that surround the administration of city hospitals, and sometimes state hospitals, is a detriment to the continued and best training of the individual. It means a change in the administration frequently and a change in methods. In St. Paul they are particularly fortunate in having Dr. Ancker, who has been so long associated with the institution and who has so far been able to maintain a certain schedule and a systematic form of instruction, and it should be a great lesson to all institutions, both public and private. It seems to me that is the only way to accomplish good results—to have a trained man or a trained woman at the head of an institution, not to select any haphazardly or to call in a head nurse to assume the responsibility of instructor and trainer. But the people must be educated to this, and until they are, we shall be greatly handicapped.

INOPERABLE CANCER OF THE UTERUS

G. Gellhorn, St. Louis (Journal A. M. A., April 27), recommends the use of acetone as a valuable palliative remedy in operable uterine cancer, as it destroys the distressing odor, checks the hemorrhage and improves the general condition. Its use was suggested by the employment of this drug in laboratory work for hardening tissues. If the ulcerated surface could be hardened during life Gellhorn assumed that the discharge could be checked until the escharotic surface could be thrown off and the process might be repeated for deeper and deeper portions. The treatment should begin with thorough shelling out of the ulcerating area. The curetted cavity is thoroughly dried with cotton sponges, the pelvis raised, and from half to one ounce of acetone is poured into the wound through a tubular speculum. The narcosis is then interrupted and the patient left in the same position for from 15 to 30 minutes. Then, by lowering the pelvis, the acetone is permitted to run out through the speculum, and the cavity is packed with a narrow gauze strip soaked in acetone. The healthy mucosa of the vagina and vulva are cleansed with sterile water and dried. Beginning on the fourth or fifth day after the operation, the process of applying the acetone is repeated two or three times a week, without narcosis, and as the cavity decreases in size a smaller and smaller speculum can be used. The treatment almost immediately checks the discharge, which, with its odor, gradually disappears. The hemorrhages fail to recur and, with the cessation of the drain on the system, the general condition improves.



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MAY 15, 1907

NATIONAL COUNCIL ON MEDICAL EDUCATION

At a recent meeting of the American Association of Medical Colleges in Chicago the following statement was made: "There are on an average 4,000 doctors graduated every year by the medical colleges of the country, and about three-fourths of these are utterly incompetent and should never be permitted to practice medicine. Certain medical colleges are lacking in proper equipment, the instructors are wanting in the necessary ability for their task, and their examination methods are useless."

This scathing criticism is directed toward the small medical schools located in small towns in which clinical material is noticeable by its absence,—schools that are run solely for profit and owned by medical men, and schools with loose entrance requirements, night schools, and correspondence-schools. The criticism cannot, and does not, apply to schools in large cities where clinical material is abundant and where the schools are in close affiliation with universities.

Granting that 4,000 medical men are graduated every year, it seems improbable that three-

fourths of this number (3,000) are actually incompetent. A large proportion may be, but when one considers the inherent competency of students that develop after the completion of their college course, it is not fair to assume that the greater number will be unworthy. Many students who are earnest and hard workers, and who show a brilliancy in class-work will pass an indifferent examination, but as soon as they are thrown upon their own resources will rise to any emergency and will demonstrate their practical qualifications. It is true, however, that many unstable medical practitioners show their unfitness after graduation. This is true in all professions and occupations, hence medical men are not exceptions. The same may be said of the academics who form a great army of workers; some are successful, some mediocre, and a large percentage fail to make an impression. The statement of the Medical Council is in a measure true, and their effort to disorganize the poor schools should be encouraged. There are schools enough in this country that maintain a high standard, and all that fall below a certain level can be eliminated by higher entrance requirements, by a demand for clinical facilities sufficient to insure practical education, and by rigid examinations before the state boards of medical examiners.

ONE OR TWO THINGS TO BE THANK- FUL FOR

The last legislature passed no medical-practice bills, although several were introduced, the most obnoxious of which was the chiropractic bill, which was fathered by Senator E. E. Smith, who comes from a district which includes the Eighth Ward of Minneapolis. Senator Smith has been fast making a record which should deny to him the vote of every honest and self-respecting voter in his district.

The governor made excellent appointments on the Board of Medical Examiners, namely: Drs. Oswald Leicht, of Winona; F. J. Brabec, of Perham; D. F. Wood, of Hanska; and F. A. Knights, of Minneapolis.

The Board elected Dr. P. A. Hilbert, of Melrose, president; Dr. Margaret Koch, of Minneapolis, vice-president; and re-elected Dr. W. S. Fullerton, of St. Paul, secretary. These officers may be expected to do all in their power to carry out the work of the Board, but none of them can perform miracles, and it would take no less than a miracle, under present conditions, to squelch the quacks operating in the state.

THE MINNESOTA VALLEY MEDICAL SOCIETY

Mankato was the meeting place of one of our oldest district medical societies on May 7, 1907.

The organization had planned a banquet on the evening of May 6th to celebrate the fiftieth anniversary in the practice of medicine of Dr. B. Z. Harrington. Unfortunately Dr. Harrington had sustained an injury to the knee-joint, and the event was temporarily postponed to a later date.

The program was an elaborate one, and the meeting was attended by a majority of the members and unusual number of visitors.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION

The meeting of the South Dakota State Medical Association at Sioux Falls, May 28, 29, and 30, promises to be the greatest meeting in the history of the organization. The program is full of interesting topics for discussion, and the well known hospitality of South Dakota will be fully enjoyed by all in attendance.

The week and the week following, when the American Medical Association meets at Atlantic City, form an index of a strenuous life for medical men in this section of the country.

DR. WILLIAM H. LEONARD

The death of Dr. William H. Leonard occurred in Minneapolis last week.

He was born in Mansfield, Conn., Dec. 2, 1825, and was 81 years old at the time of his death.

Dr. Leonard graduated from the medical department of the University of New York, and later graduated from a Hahnemann medical school. He came to Minneapolis, or, rather, St. Anthony Falls, May 1, 1855; consequently he was the oldest practising physician in Minneapolis.

He was one of the originators of the Hennepin County Medical Society, and it was through his efforts that the Hahnemann Medical Society of Hennepin County was formed. He was three times president of the Minnesota State Homeopathic Institute, the oldest living member of the Minneapolis Lodge of Masons, a charter member of the Athenaeum, the foundation of the Minneapolis Public Library, and a founder of the Minnesota Academy of Natural Sciences and its early president.

When the civil war broke out he enlisted in the

Fifth Minnesota as assistant surgeon, and was a messmate of Archbishop Ireland, chaplain of the regiment. He was the oldest member of the John A. Rawlins Post.

He was the first health officer after the union of St. Anthony and Minneapolis, and for nearly twenty-five years was a member of the State Board of Health.

The doctor was one of the members of the first state lunacy commission, and was prominent in the establishment of the State Board of Charities.

Dr. Leonard was an exceedingly popular physician, successful, skillful, genial, and conscientious in whatever work or duty he undertook. When he became a homeopath he carried out the Hahnemann idea faithfully and persistently. He was true to his principles and sincere in his beliefs.

DR. MELVIN C. MILLETT

The death of Dr. Millett, at Rochester, Minn., from chronic nephritis, occurred on the evening of May 6, 1907.

Dr. Millett was a member of the Mayo family, and was closely identified with the success of the firm. He was an expert in cystoscopy, and his methods and technic were fully recognized by hundreds of visiting surgeons. To these labors he added the skill of the internalist in diagnosis by his painstaking analyses.

Dr. Millett was born in Minnesota in 1868, and graduated from the Medical Department of the State University in 1895.

His many patients remember him with the greatest kindness, and often speak of his interest and sympathy.

NOT DR. SAVAGE, BUT DR. SALVAGE

We had a note in this column in our last issue referring to some very unseemly advertising in the Fargo (N. D.) Forum by a Dr. F. E. Salvage. The name was misspelled and became "Savage," and without initials. Of course, everyone who knows Dr. James L. Savage, of Davenport, N. D., will know that, neither at home nor abroad, could he be guilty of unprofessional conduct, and that our reference was not to him.

We are glad to be informed that Dr. Salvage is a "dope fiend," and really needs pity rather than condemnation, but what is to be said of a respectable newspaper that will admit to its columns such advertising and from such a source? The editor of the paper is far more guilty than the advertiser.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

The May meeting of the Academy was held Wednesday evening, May 1, at the Minnesota Club, St. Paul. There were present 49 members and seven guests. The meeting was called to order at 8 o'clock by Dr. R. O. Beard, the president.

Dr. Law reported a case of a boy of 16 who sustained a broken neck, which was operated upon and recovered.

Dr. Abbott of Minneapolis reported a case of supernumerary ovary, and presented the specimen.

Dr. H. J. O'Brien read a paper entitled "The Clinical Teaching of Surgery, Illustrated by the Operations of Thirty-six Consecutive Clinics." This paper was discussed by Drs. Dunsmoor, Sweetser, Hunter and Erdmann, and by Dr. O'Brien in closing.

Following this a symposium of papers upon "Physical and Chemical Principles Applied to Modern Medicine" was presented by special invitation of the Academy.

Dr. Geo. B. Frankforter presented a paper upon "The Ionic Theory in Relation to the Atomic Theory in Chemistry."

Prof. John Zeleny presented "The Ionic Theory in Relation to Physics."

Prof. Ira H. Derby presented the subject of "Ionic Dissociation, Diffusion, and Osmosis, with Especial Reference to Physiologic Media."

Dr. Thomas G. Lee gave a paper entitled "The Application of the Laws of Dissociation, Diffusion, and Osmosis to Histologic Work."

Dr. Julius P. Sedgewick presented "The Application of the Laws of Dissociation, Diffusion, and Osmosis to Physiologic Function."

A. W. DUNNING, M. D., Secretary.

WOMAN'S MEDICAL CLUB

The Woman's Medical Club of Minneapolis met in regular session Wednesday evening, April 24, at 8 p. m., Dr. Mary S. Whetstone presiding. The paper of the evening was by Dr. Addie R. Haverfield, who has lately been studying in Chicago. Her subject was: "Notes On Some Recent Post-Graduate Work." Among other things she discussed the opsonic theory, Bier's method of treatment by congestional hyperemia, and the measuring of blood-pressure. She had with her a sphygmomanometer, and demonstrated its value as a diagnostic aid. General discussion of her paper followed.

FLORENCE C. BAIR, M. D., Secretary.

HENNEPIN COUNTY SOCIETY

A regular meeting of the Hennepin County Medical Society was held on May 6th.

In the absence of the president, the vice-president, Dr. A. T. Mann, occupied the chair. There were thirty-five members and visitors present.

The Censors reported favorably on the following named physicians, who were duly elected to membership.

Dr. Maude Stephens Slocumb, 707 Fourteenth avenue N.

Dr. Elmer Nicholson, 1527 E Lake street.

Dr. C. P. Nelson, 3203 Lyndale avenue N.

The name of Dr. Arthur E. Smith was proposed for membership.

The scientific program being in order, Dr. C. H. Bradley read a paper on "The Spleen in Typhoid Fever," which was discussed by Dr. L. A. Nippert.

Dr. E. H. Parker read a paper on "Treatment of Empyema of the Antrum," and the paper was discussed by Drs. W. R. Murray, E. J. Brown, J. A. Watson and C. N. Spratt, the discussion being closed by the essayist.

Dr. R. E. Farr reported a case of multiple fibroid tumor of the uterus, complicated by pregnancy. The specimen was shown.

Dr. A. A. Law reported a case of dislocation of the cervical vertebræ, reduction and recovery, and Dr. G. C. Barton reported a similar case with recovery.

Drs. J. Frank Corbett and C. H. Bradley reported a case of tricuspid stenosis, with autopsy.

C. H. BRADLEY, M. D., Secretary.

STEARNS-BENTON COUNTY SOCIETY

The Stearns-Benton County Society held its annual meeting at St. Cloud on April 18th. Dr. E. A. Woods, of Clear Lake, read a paper on the "Treatment of the Puerperium"; Dr. W. L. Beebe, of St. Cloud read one on "Puerperal Eclampsia"; and Dr. J. B. Dunn, of St. Cloud, read one on the "Examination of Malignant Growths." The papers were thoroughly discussed, and many interesting and valuable points were brought out. Dr. C. B. Lewis, of St. Cloud, exhibited a number of interesting pathological specimens. The following were elected officers for the ensuing year: President, Dr. E. J. Lewis, Sauk Centre; vice-president, Dr. O. H. Wolner, St. Cloud; secretary and treasurer, Dr. J. C. Boehm, St. Cloud; censor for three years, Dr. G. E. Maloy, St. Cloud; delegate, Dr. W. L. Beebe; alternate delegate, Dr. C. B. Lewis. The next meeting will be held May 16th.

J. C. BOEHM, M. D., Secretary.

THE PARK REGION DISTRICT AND COUNTY SOCIETY

The regular quarterly meeting of the Park Region District and County Medical Society was held at Fergus Falls on Wednesday, April 17th.

The following subjects were considered: Eclampsia, Kidney Surgery, Scarlet Fever, with particular reference to sequelæ; Suggestions for the betterment of our medical societies.

The attendance was very good, nearly three-quarters of the membership being present. The papers were thoroughly and enthusiastically discussed, and the meeting was one of the best in the history of our society.

O. M. HAUGAN, M. D., Secretary.

THE MOWER COUNTY SOCIETY

The 19th quarterly meeting of the Mower County Medical Society was held at Austin, April 10th.

A majority of the members were present. Dr. A. E. Henslin, of Le Roy, read an excellent and instructive paper on "Fractures at the Elbow-joint." A practical demonstration and exhibition of case followed.

All of the members present took part in the discussion of the subject and related their results and experience in private practice.

F. W. SCHULTZ, M. D., Secretary.

BOOK NOTICES

NERVOUS DISEASES, ORGANIC AND FUNCTIONAL.

By M. Allen Starr, M. D., LL. D., Sc. D., Professor of Neurology, College of Physicians and Surgeons, New York. Second Edition. Thoroughly Revised. Cloth. Pp. 816. Illustrated. Price \$6.00. Philadelphia and New York: Lea Brothers & Co.

A second edition of Starr's well-known textbook on nervous diseases has recently been issued. In the first edition only the organic diseases were considered, but in this volume a second part has been added in which certain of the functional conditions are taken up. Out of a total of 798 pages, however, only 86 are devoted to functional disturbances, and so the chief merit of the book is found in the part devoted to organic diseases. In this part there has not been much change, and one finds little to criticize and much to commend.

The excellent chapters on the diagnosis of

spinal-cord diseases and brain diseases are continued and add greatly to the value of the book. Such important conditions as locomotor ataxia, brain tumors, and apoplexy are fully considered, and under the latter heading the differential diagnosis between cerebral hemorrhage, thrombosis, and embolism is fully considered.

Two hundred and sixty-eight engravings and 26 plates in colors and monochrome add much to the value of the book.

TABES DORSALIS, THE LUMLEIAN LECTURES. Delivered before the Royal College of Physicians, London, March, 1906, by David Ferrier, M. D., LL. D., F. R. S. Cloth. Pp. 122. Price \$1.50. New York: William Wood & Co.

In the words of its author the object of this excellent little book is to present "the evolution of our knowledge of tabes, its nature and causes, and to indicate the problems as yet unsolved and on which we need further light." In the first lecture the evolution of the present conception of tabes is carefully traced, and an unusually clear picture of the varying ideas of its pathology is given. Dr. Ferrier is opposed to the view that a change in the posterior root ganglia is the cause of the dystrophy observed elsewhere in the nervous system, and in conclusion he says, "the essential lesion of tabes is a dystrophy similar to that induced by certain toxic agents, affecting the sensory protoneurone as a whole."

He believes in the essential pathological identity of tabes and general paralysis, and that both are the result of syphilis. As explaining why some syphilitics present lesions of the nervous system and others do not, he suggests that there may be a form of syphilitic virus which falls with special virulence on the nervous system, and he mentions an instance where of five men all infected with syphilis from the same source, four later fell victims to tabes or general paralysis.

The third lecture contains a very full discussion of the physiological pathology of tabes, and the book closes with a bibliography. Though not exhaustive, in that certain features of tabes are scarcely touched upon, the book presents an unusually clear picture of the most interesting phases of this important disease.

THE AMERICAN MEDICAL DIRECTORY. A Register of Legally Qualified Physicians of the United States and Canada. Price \$7.00. Chicago: American Medical Association Press. The American Medical Association would

have been in very poor business had it entered upon the publication of a medical directory without a sufficient reason other than the matter of profit, but it had a reason, and that reason was the urgent need of the profession for a reliable, accurate medical directory gotten out without regard to expense when expenditure was necessary to obtain the facts to be set forth in its pages.

We have had an opportunity to give the directory two pretty severe tests. In revising the roster of the Minnesota State Medical Association many names have been compared with the names in the directory, and scarcely an error has been found in the directory, while many were found in the roster. We also compared the names on forty-two returned letters out of a list sent to Wisconsin physicians, the names on the list having been taken from a medical directory compiled at about the same time that the A. M. A. directory was compiled. Of these forty-two wrong addresses only five appear in the A. M. A. directory. Sixteen of these returned letters were addressed to Milwaukee physicians, and only four of the sixteen wrong addresses appear in the A. M. A. directory.

We submit that this is a remarkable contrast between two directories compiled at about the same time, and it shows that the A. M. A. directory was needed.

But accuracy in the list is not all that is required in a medical directory: accurate information about the persons listed is the most essential thing, and in this the A. M. A. directory is invaluable. It shows by the kind of type used who are members of county and state medical associations, and who are members of the A. M. A. It gives the date of birth, date of graduation, college graduated from, and the date of the state license of every person on the list, in addition to lots of valuable information concerning medical matters in each state.

The volume is a very valuable one, and all who use a medical directory are under obligation to the compilers of a book that required skill and infinite patience in digging up much of this information.

DR. EDW. C. REGISTER'S NEW BOOK

"Practical Fever Nursing" will soon be issued from the presses of The Saunders Co., of Philadelphia. Dr. Register is well-known as the editor of the Charlotte Medical Journal, and a Professor of the Practice of Medicine in the North Carolina Medical College at Charlotte, N. C. Dr. Register is a widely

traveled, well-read and a polished, dignified gentleman. He has always enjoyed a large and lucrative practice in his home city as well as in near-by towns and in adjoining states. From his varied and ripe experience in the profession the doctor is in a position to write authoritatively on the subject of "Fever Nursing."

MEDICAL DIAGNOSIS. A Manual for Students and Practitioners. By Charles Lyman Greene, M. D., Professor of the Theory and Practice of Medicine in the University of Minnesota. Illustrated. Pp. 683. Price \$3.50. Philadelphia: P. Blakiston's Son & Co.

In this volume the author presents to the medical public an excellent handbook of medical diagnosis. Though not intended to compete with the larger books on the same subject, by the elimination of unessentials a book of convenient form and size, and yet covering the field very satisfactorily, has been produced. In the words of the author, it is intended especially for the over-taxed student and the general practitioner.

Elaborate marginal notes greatly facilitate the location of special subjects, and seven colored plates and two hundred and thirty illustrations add to the value of the work which, for completeness and conciseness is without equal among the smaller books on medical diagnosis.

NEWS ITEMS

Dr. C. M. Ferro, of Tracy, has decided to locate at Marshall.

Dr. L. A. Faulkner, of Lonsdale, has decided to locate in Mankato.

Drs. Holl and Dawson, of Minneapolis, have dissolved partnership.

Dr. J. C. Suter will move from Crystal, N. D., to Vancouver, B. C.

Dr. M. C. Schenecker has moved from Bristol, S. D., to Webster, S. D.

Dr. G. A. C. Cutts, of Grove City, has been doing post-graduate work in Chicago.

Dr. John G. Johns has moved from Bowden, N. D., to New Rockford, in the same state.

Dr. G. W. Brooks has given up practice in Munich, N. D., and will go back to Michigan.

The Grand Forks, N. D., physicians have increased their fees for calls from \$1.50 to \$2.00.

Dr. John A. Prim, of Comfrey, is going to Europe for a three months' vacation and study.

Dr. W. M. Brown, of St. Thomas, N. D., is taking a post-graduate course at Johns Hopkins.

Dr. Edwin B. Dougherty, of Duluth, was married last week to Miss May Alness, of St. Paul.

Dr. August Kuhlmann, of Melrose, was married last month to a young lady of Humphry, Neb.

Dr. B. A. Bobb, of Mitchell, S. D., will spend several months in Chicago in the study of surgery.

Dr. E. F. Winter has taken up his work as assistant in the St. Peter State Hospital for the Insane.

Dr. W. C. Chambers, of Owatonna, was married last month to Miss Gertrude M. Wolfer, of Stillwater.

Dr. O. W. Holcomb, who has been in Mercy Hospital, Chicago, for the past year, has located at Erskine.

Drs. C. D. Harrington and H. G. Franzen, of Minneapolis, have moved to new offices, 515 Syndicate Arcade.

Dr. H. A. LaMoure, of Faribault, has taken up his new work in the North Dakota School for the Feeble Minded.

Drs. W. J. and C. H. Mayo have bought a 340-acre farm near Rochester and will make it their summer home.

Dr. G. S. Brigham, of St. Cloud, was bitten by a dog last month and suffered very seriously from blood poisoning.

Dr. C. D. Richmond, a 1905 State University graduate, who is now practising at Ross, N. D., has moved to Casselton.

The old wing of the Brainerd hospital was destroyed by fire last month, causing a loss of several thousand dollars.

The Commercial Club of Paynesville is taking a very active part in the raising of funds to build the new Pilon hospital.

Dr. O. H. Hegge, of Austin, has returned from Chicago, where he has been attending the Chicago Polyclinic, for post-graduate work.

Dr. J. P. Brastad, of Canton, S. D., has moved to Minneapolis and has been appointed upon the staff of the Norwegian Lutheran Hospital.

Dr. E. A. Cokat, of Minot, N. D., accompanied by Dr. C. A. Klemmer, of the same place,

will spend a year in the German medical schools and hospitals.

Bids have been asked for by the Fort Pierre Hospital Co., of Fort Pierre, S. D., to build a hospital building, 40x40, three stories high, of brick or cement.

Dr. Russell W. Tennant has moved from Brookings, S. D., to Spokane, Wash., to enter into partnership with an old-established physician of that place.

Dr. Frank S. Bissell, of Maple Lake, leaves this week for Europe, where he will remain a year or more for special study and work in the hospitals of Germany.

Dr. H. G. Mertens, of Washburn, Wis., will probably move to Bayfield, a few miles distant, and open a sanatorium, using the old courthouse building for this purpose.

Dr. C. M. Bradley, who formerly practiced at Geneva Junction, Wis., has located at Lake Benton. Dr. Bradley graduated from the Albany Medical College in 1887.

Three open-air camps are to be built at once for the State Sanatorium for Consumptives at Walker, and as soon as a few other improvements are made patients will be received.

Dr. E. E. Barrett, of Glencoe, has moved into his new hospital building, although it is not fully completed. It is a building of ten large rooms, and fills a long-felt want in Glencoe.

Dr. I. N. Wear, of Fargo, who is now in Italy, having been away from his practice over a year on account of illness, is now expected to resume his practice in a short time.

Dr. Ray Palmer Robbins died last month at Portland, Oregon, at the age of 28. Dr. Robbins was a graduate of the State University, class of 1904, and his home was at Sauk Center.

Dr. J. M. Scanlan, of Butte, Montana, has succeeded Dr. O. Y. Warren as superintendent of the state asylum for the insane at Warm Springs. Dr. Warren will move to Butte.

Dr. Irwin M. Rockefeller, of Anaconda, Mont., has retired after forty years of active practice. Every doctor in Anaconda and several from Butte and Warm Springs attended a banquet in his honor.

Dr. J. T. Miller, of the U. S. recruiting station, in Minneapolis, has been succeeded by Dr. J. Miller Moore, of Norfolk, Va. Dr. Miller goes to Washington, D. C., to do post-graduate work.

William Rehfeld is at the head of a corporation at Aberdeen, S. D., to build a new hospital

in that city. It is proposed to raise \$30,000 and begin work this summer. One-half the amount has been pledged.

Dr. M. C. Millet, of Rochester, died on the 6th inst. at the age of 40. He was associated with the Drs. Mayo in St. Mary's Hospital for ten years. He graduated from the State University, class of 1895.

Dr. Arthur W. Ide, who has been connected with the N. P. Hospital at Brainerd for two years, succeeds Dr. Mowers, the assistant surgeon, who has gone to Tacoma to take charge of the N. P. Hospital at that place.

It is announced that South Dakota, because of a recent amendment to its medical-practice act, is to have a second Epiphany. One "Dr." Hart, a healer who was expelled from the state, is now to return, and will build a sanatorium at Mission Hill.

The Rice County Medical Society met last month at the School for the Feeble-Minded, in Faribault. Dr. Rogers, of the school, served a luncheon. Papers were read by Drs. Huxley and Rumpf, and Dr. Rogers presented some interesting cases.

The new State Board of Health of North Dakota, of which Dr. James Grassick, of Grand Forks, is secretary, has begun to do active work along the lines laid down by other state boards, and its statistics will be very welcome to persons interested in records of this character.

The State University of South Dakota, following the example of the State University of North Dakota, is to have a department of medicine covering a two-year course, granting a certificate which will enable its holder to enter some other college for the completion of his medical course.

Drs. Boyden and Green, of Brookings, S. D., have completed their hospital, and it will be open to all physicians. The building is 36x56 and is two stories high. Miss M. M. Maxted, a Chicago nurse, will be the superintendent. She has taken special training at Rochester. Mrs. Bertha Lien will be the night nurse.

The Shevenne Valley Medical Society met at Valley City, N. D., last month for its semi-annual session. The scientific program was followed by a banquet. The officers elected were as follows: President, Dr. C. L. Brimi, Cooperstown; vice-president, Dr. A. J. Lang, Sanborn; secretary and treasurer, Dr. W. C. Nolte, Dazey.

Dr. W. H. Leonard, one of the oldest homoeopathic physicians in the state, died the early

part of the month, at his home in Minneapolis. He came to Minneapolis fifty-three years ago, and has been in almost continuous practice since that date. He was one of the few members of his school who remained true to the principles of Hahnemann.

Mr. Theodore D. Buhl, who has been president of the house of Parke, Davis & Co. for ten years, died suddenly in New York City last month. Mr. Buhl was a man of great integrity and used his large wealth in a manner to commend him to his fellow men. He was greatly beloved by all his associates and his army of employees.

A Minneapolis doctor is delivering lectures in the villages of the Northwest on sexual topics, and is doubtless doing a good work, and this fact is inferred, not only from what we know of the man, but from what a local paper says of him, namely, that he was "for years a lecturer in *theology* to physicians and surgeons in Minneapolis." Why to surgeons, we wonder?

Mr. D. L. Fife, who has had large experience as a dealer in high grade cutlery, will soon begin in Minneapolis the manufacture of surgical and dental instruments, and repair work. Mr. Christian Reese, formerly connected with the Massachusetts General Hospital, will have charge of the factory, and will give the physicians and surgeons of the Northwest the best service they have ever had.

The following names are to be added to the roster of the State Association as published in our issue of May 1st: Drs. T. W. Stumm, E. F. Murphy, Harry Cannon, A. A. Charpentier, and W. H. Vittum, St. Paul; Dr. Arthur Kahala, Sand Point, Idaho; Drs. C. E. Gates and H. P. Sawyer, Goodhue; Drs. B. Jaehnig and C. N. Hewitt, Red Wing; Dr. S. B. Haessly, Cannon Falls; Dr. Edmund Backe, Kenyon; and Drs. Maud S. Slocumb and Elmer Nicholson, Minneapolis.

The following physicians were admitted to practice in North Dakota at the April examinations (by examination): Dr. E. M. Larson, Minot; Dr. W. H. Gray, Ryder; Dr. Emiar Onsum, Devils Lake; Dr. N. N. Jensen, Williston; Dr. A. M. Brandt, Bismarck; Dr. W. J. Austin, Balfour; Dr. N. Mykelstad, Clumbia; Dr. John Blackburn, Olka; (by reciprocity): Dr. A. W. Thomas, Overly; Dr. C. A. Wicklund; Dr. H. B. Museus, Fessenden and Dr. W. H. Cuthbert, Titus.

The first board of examiners of graduate nurses has been appointed by Governor Johnson.

REPORTED FROM 71 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF MARCH, 1907

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Albert Lea.....	4,500	5,657	5	1	1	2	1	1									
Anoka.....	3,769	4,053	1														
Austin.....	5,474	6,489	4														1
Barnesville.....	1,326	1,566	*														
Bemidji.....	2,183	3,800	*														
Blue Earth.....	2,900	2,364	4			1							1				1
Brainerd.....	7,524	8,134	13	1													
Chaska.....	2,165	2,085	*														
Chatfield.....	1,426	1,300	*														
Cloquet.....	3,074	6,117	*														
Crookston.....	5,359	6,794	9		1	1											
Detroit.....	2,060	2,149	3	3													
Duluth.....	52,968	64,942	78	5	1	11	4	1					2	2	8	2	3
E. Grand Forks.....	2,077	2,489	*														
Ely.....	3,712	4,045	6	2													
Eveleth.....	2,752	5,332	4					1								1	
Faribault.....	7,868	8,279	3				1	1									
Fairmont.....	3,440	2,955	0														
Fergus Falls.....	6,072	6,692	0														
Granite Falls.....	1,214	1,340	*														
Hastings.....	3,811	3,810	3			1											
Hutchinson.....	2,495	2,489	0														
Jordan.....	1,270	1,311	*														
Lake City.....	2,744	2,877	4														1
Litchfield.....	2,280	2,415	2														
Little Falls.....	5,774	5,886	6	1		1	1										
Luverne.....	2,223	2,272	0														
Le Sueur.....	1,937	1,842	3	1													
Madison.....	1,336	1,604	0														
Mankato.....	10,559	10,996	16	2		6											3
Marshall.....	2,088	2,243	*														
Melrose.....	1,768	2,151	*														
Minneapolis.....	202,718	261,974	268	27	7	31	8	3	3		1	1	2	7	3	1	23
Montgomery.....	979	1,281	1	1													
Montevideo.....	2,146	2,595	1														
Moorhead.....	3,730	4,794	8	2		3									1		
Morris.....	1,934	2,003	*														
New Prague.....	1,228	1,419	0														
New Ulm.....	5,403	5,720	7												1		
Northfield.....	3,210	3,438	0														
Ortonville.....	1,247	1,612	1														
Owatonna.....	5,561	5,651	4			1											
Pipestone.....	2,536	2,885	3														
Red Lake Falls.....	1,885	1,797	2			1											
Red Wing.....	7,525	8,149	*														
Redwood Falls.....	1,661	1,806	1														
Rochester.....	6,843	7,233	10														
Rushford.....	1,100	1,133	1														
St. Charles.....	1,304	1,238	*														
St. Cloud.....	8,663	9,422	9			1											
St. James.....	2,607	2,320	1			1											
St. Paul.....	163,632	197,323	203	23	2	21	1	5	2			1	1	3	6		9
St. Peter.....	4,302	4,514	2														
Sauk Centre.....	2,220	2,463	3														2
Shakopee.....	2,046	2,069	*														
Sleepy Eye.....	2,046	2,312	1														
So. St. Paul.....	2,322	3,458	1														
Stillwater.....	12,318	12,435	9														
Thief River Falls.....	1,819	3,502	2														1
Tower.....	1,366	1,340	3			1											
Tracy.....	1,911	2,015	3														2
Virginia.....	2,962	6,056	11			3									1		
Wabasha.....	2,528	2,619	*														
Warren.....	1,276	1,640	1														
Waseca.....	3,103	2,838	*														
Waterville.....	1,260	1,383	0														
West St. Paul.....	1,830	2,100	1														
Willmar.....	3,409	4,040	2														1
Windom.....	1,944	1,884	0														
Winona.....	19,714	20,334	24	4		1	1										
Worthington.....	2,386	2,276	1			1											

*No report received Health officer not doing his duty

REPORTED FROM 66 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF MARCH, 1907

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Ada.....	1,253	1,515	*														
Adrian.....	1,258	1,184	0														
Aitkin.....	1,719	1,896	1														
Akeley.....		1,636	0				1										
Alexandria.....	2,681	3,051	3														
Appleton.....	1,184	1,321	3		1												
Belle Plaine.....	1,121	1,301	*														
Benson.....	1,325	1,766	0														
Breckenridge.....	1,282	1,850	1														
Buffalo.....	1,040	1,124	2														
Caledonia.....	1,175	1,405	0														
Canby.....	1,100	1,505	0														
Cannon Falls.....	1,239	1,460	0														
Cass Lake.....	546	1,062	*														
Chisholm.....		4,231	16														
Dawson.....	962	1,056	4		1	3	1									1	1
Delano.....	967	1,023	2			1		1									
Fosston.....	864	1,000	*														
Frazee.....	1,000	1,146	1				1										
Glencoe.....	1,730	1,805	0														
Glenwood.....	1,116	1,718	*														
Graceville.....	856	1,032	*														
Grand Rapids.....	1,428	2,055	1														
Hallock.....	805	1,014	1														
Hibbing.....	2,481	6,566	19	1	12	5									1		
Jackson.....	1,756	1,776	2														
Janesville.....	1,254	1,205	1														
Kasson.....	1,112	1,049	2														
Kenyon.....	1,202	1,252	0														
Lake Crystal.....	1,215	1,231	0														
Lanesboro.....	1,102	1,041	*														
Long Prairie.....	1,385	1,256	0														
Madelia.....	1,272	1,290	*														
Milaca.....	1,204	1,319	0														
Mountain Lake.....	959	1,063	2														
North Mankato.....	939	1,129	1			1											
North St. Paul.....	1,110	1,400	2			1											
Olivia.....	970	1,019	1														
Osakis.....	917	1,056	2														
Park Rapids.....	1,313	1,719	0														
Pelican Rapids.....	1,033	1,095	0														
Perham.....	1,182	1,366	*														
Pine City.....	993	1,092	*														
Plainview.....	1,038	1,140	*														
Preston.....	1,278	1,320	4			1											
Princeton.....	1,319	1,704	*														
Renville.....	1,075	1,229	0														
Rush City.....	987	1,041	2														
Rushford.....	1,062	1,040	1		1												
St. Louis Park.....	1,325	1,491	*														
Sandstone.....	1,189	1,589	2		1	1											
Saulk Rapids.....	1,391	1,552	1														
Scanlon.....		1,122	3														
South Stillwater.....	1,422	1,572	3														
Springfield.....	1,511	1,546	*														
Spring Valley.....	1,770	1,573	*														
Staples.....	1,504	2,163	2		1												
Two Harbors.....	3,278	4,402	*														
Wadena.....	1,520	1,868	3			1											
Wells.....	2,017	1,814	*														
West Minneapolis.....	2,250	2,530	2														
Wheaton.....	1,132	1,346	*														
White Bear Lake.....	1,288	1,724	*														
Winnebago City.....	1,816	1,553	1														
Winthrop.....	813	1,031	1														
Zumbrota.....	1,119	1,129	1														
State Institutions.....			45	11		4											
Other parts of State.....	1,012,328	1,085,886	471	48	3	54	5	7	5	3		4	3	7	8	6	24
Total for State.....	1,751,395	1,979,658	1353	140	18	160	24	19	10	3	1	10	8	21	31	10	72

Still births and premature births, 71 (not included in above totals).

*No report received. Health officer not doing his duty

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SOME OBSERVATIONS IN EUROPE

BY HERBERT W. JONES, M. D.,

MINNEAPOLIS

THE ULTRAMICROSCOPE.

The first so-called ultramicroscope was put out some four years ago by Zeiss, but very little attention was paid to it by the medical profession until the discovery of the *spirochæta pallida*. At the present time all the leading manufacturers seem to have their special kind of ultramicroscope, and Zeiss promises to have a new and superior one soon; however, the only one that need be considered from a practical standpoint is the one put out by C. Reichert, of Vienna. It is comparatively simple, and the important parts can be added to an ordinary microscope. It is in daily use in several of the clinics here (Vienna.)

All there is *ultra* about any of these scopes is the method of lighting. This consists in securing a very bright light by means of an electric arc, and running the light through a so-called mirror-condenser, which cuts out all the direct rays and allows only the reflected rays to enter the field. These enter the field at an oblique angle and pass to the top of the cover-glass where they are totally reflected out of the field of vision, unless there is something in the field to turn the light into the objective; therefore the microscopic field is dark, and the bacteria, etc., stand out in white and give the name "dark field lighting."

The principle can be well illustrated by a beam of sunlight entering a dark room. If the light passes directly into the eye one is blinded and sees nothing of the dust particles floating in the air. If one stands on one side of the beam and

looks across it the path of light is dark and only the dust particles stand out as bright points.

The outfit as generally used consists of—

(1.) A so-called "liliputian" arc-lamp, with carbons about the size of slate-pencils. The whole lamp is arranged for table use and occupies about the same space as a microscope. It can be attached to an incandescent electric lighting circuit of 110 volts primary current. It costs \$18.00, or, if arranged for 110 volt secondary current, \$23.00.

(2.) A biconvex lens to increase the intensity of the light, which costs \$6.00.

The condensers are made in several styles, and each has its advantages. In one the lens is in the shape of a truncated cone, in another a truncated planoconvex lens. All are mirrored at the sides, and the bottom is larger than the top. The bottom of the lens is partially covered with a circular piece of metal, which is of the same diameter as the top of the lens, therefore allowing no rays of light to pass directly through. The light passes into the condensing lens outside of the metal blind; and the rays are reflected from the oblique, mirrored sides of the lens into the field. In the truncated planoconvex lens the light passes from the mirrored sides down to the lower surface of the lens, and from there is totally reflected into the field.

The slide is made exactly 2 mm. thick, and immersion oil is placed between the top of the condenser and the bottom of the slide so that the light passes without reflection or refraction into the space between the slide and the cover-glass. If no refracting object comes into the path of

the ray it passes to the top of the cover-glass, and is reflected out of the field. If an object stops the light in the field the rays pass into the objective. The condensers are made for (1) dry lens objective and costs \$10.00, (2) for dry lens objectives and costs \$20.00. The objective of an ordinary microscope may be used, but it must be modified and adjusted to focus to both the Abbe and the ultramicroscope condenser. The eye-piece used is generally No. 12 or No. 18.

The condensers for use with both dry and immersion objectives have been on the market only a few months, and as Reichert is putting out an 1-18 oil-immersion objective, or 2 mm. apochromatic objective to go with it. The combination is a powerful one.

USE.

For stained preparations the ultramicroscope is no better than the ordinary scope. In un-

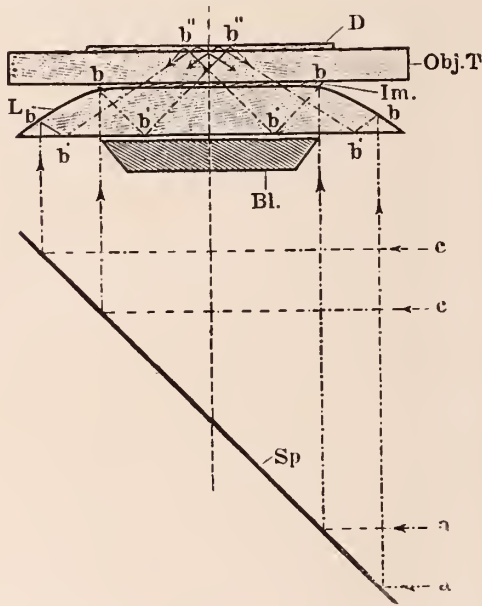


Fig. 1, illustrating the path of light in the truncated planoconvex lens. Sp., ordinary mirror of microscope. Bl., metal blind below lens. L., lens with mirrored sides. Im., immersion oil between lens and slide. Obj. T., slide. D., cover-glass. A and c are rays of light and their paths are shown by dotted lines to b, b' and b''.

stained preparations and blood the refractive bodies and granules stand out in bold relief. Investigations are now in progress with these microscopes to identify the causes of many diseases whose etiology is still unknown, and the work has progressed far enough so that good results are assured. The great issue at present is the identification, in unstained preparations, of the spirochæta pallida. A slight amount of serum from the deeper layers of a suspicious sore is placed on the slide and immediately examined. The peculiar refractive power of the spirochæta makes them stand out, as one doctor said, like

boa-constrictors wriggling in the serum, and the diagnosis is easily made.

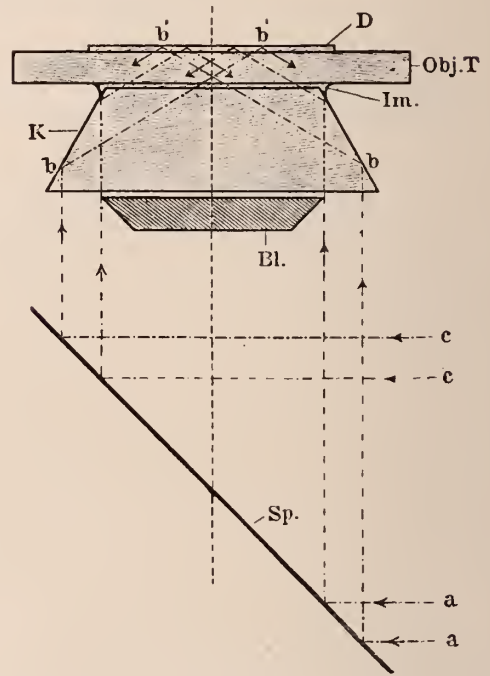


Fig. 2, illustrating the path of light in the truncated cone lens. Same letters as in Fig. 1, except K, which is the lens.

The ultramicroscope is also used to examine fluids in chemistry and other sciences.

A detailed account of the ultramicroscope of Reichert will appear for the first time in English

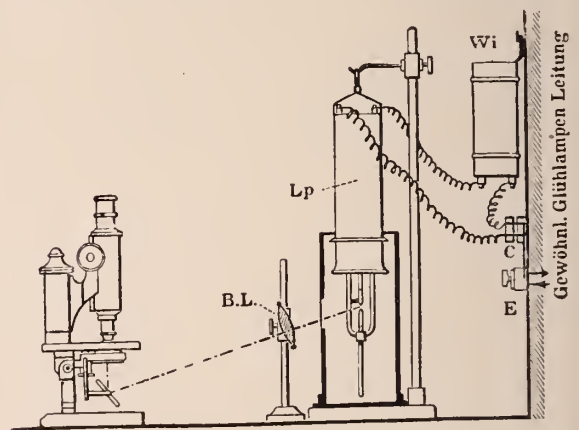


Fig. 3, showing the microscope, lens and lamp in position.

in the Journal of the Royal Microscopical Society, London, for June, 1907.

Reichert's agent in America is Jas. T. Dougherty, 409 West 59th St., New York., where further information can be obtained, but some of the professors here advise waiting till the new Zeiss instrument is ready before deciding which to buy.

A NEW ANTISEPTIC.

An antiseptic has been in quite general use in Europe during the last year and seems almost indispensable after the habit of its use is once contracted. The tablets are put out as Dr. v. Pieverling's pastelles of oxycyanide of mercury, and consists of hydrargyri oxycyanati, combined for solubility with an alkali tartrate, and stained blue in contrast with the conventional red of the bichloride.

They are supposed to have the same antiseptic powers as corrosive sublimate, are non-odorous, and their great advantage is that they do not corrode metals. The tablets are in general use in obstetrics, gynecology and surgery, and some men are using them for urethritis, claiming that they are more antiseptic and less irritating than silver nitrate. One genito-urinary surgeon claims that a 1-4000 solution (unstained) makes the clearest fluid for examining the bladder that he has found. It is used in the same dilutions as the bichloride, and is also used for the hypodermic injection of mercury. Its

name certainly sounds antiseptic. These tablets are put out by Maximilians Apotheke in Munich.

LABOR ANESTHESIA

The combination of morphine and hyoscine hydrobromate as an anesthetic in confinement cases has been in use here for some time, and numerous reports can be found in the German literature. The use consists in the hypodermic administration of 1-6 gr. of the former and 1-200 gr. of the latter. The dose to be repeated in three hours if necessary. Lung and heart diseases are contraindications. The objections to its use are (1) a delirium of the mother, which occurs in a small percentage of cases after the birth; (2) an intoxication of the baby, with drowsiness and slow breathing. The baby is blue and usually stays blue several hours, but very seldom dies. Only one death has occurred in the clinic here in several hundred births. The action is uncertain, and in some cases very little effect is noticed, while in others the baby is born with absolutely no pain.

THE PRESENT TREND OF THE MEDICAL PROFESSION*

By THEODORE L. HATCH, M. D.

OWATONNA, MINN.

In reflecting upon the matter of a subject to present to the Society at the close of the year, I have thought that it might be well to follow the example of the conservative merchant and take an account of stock. In reviewing the subject it will be discussed, first, from a strictly professional standpoint and, later, from an ethical one.

Human nature is so constituted that it is disposed to follow extremes. This is true of the medical profession, as well as of any other part of mankind. In the early days we had this illustrated in the routine practice of severe vesication with the cantharides plaster, the practice of venesection to syncope, and the use of the mercurials to salivation. In later years extremes have been followed along a variety of lines: Ovaries have been removed by the barreland, appendices have been slaughtered by wholesale, and the liver has been subject to its share of the surgeon's onslaught. Nor has the brilliant work of the surgeon stopped here, but nearly every organ of the body, including practically all of the thoracic organs, have been subjected to the knife. It is sometimes to be wondered if

sooner or later even a man's soul must not be compelled to submit to the daring of the accomplished surgeon.

This progress in the domain of surgery has been in a measure at the expense of practical therapeutics in its various branches. In thus speaking of surgery, the writer would not have it inferred that he is disposed to speak slightingly or disparagingly, of the work of the surgeon. There can be no question as to the surgeon's notable achievements, but, on the other hand, there can be no question but that his work has often been carried to an extreme, even of extreme radicalism and recklessness.

Bacteriology has contributed a great share in the work of progressive medicine, and in elucidating many previously unexplained phenomena; but even in this case the pendulum has swung to the extreme, till a bug has been found for nearly every disease or pathological condition known to the profession. The same might be said of histology and pathology.

Since the advent of diphtheria-antitoxin, serum therapy has been pushed to the limit, but has not as yet fulfilled the hopes nor met the expectations of its most zealous advocates. Sera from

*Read before the Steele County Medical Society, January 1, 1907.

various healthy organs have been manufactured, and also sera from various infectious diseases; but the truth which all investigators are endeavoring to evolve remains hidden among Nature's secrets, and time only, with patient labor, can reveal it.

The work done in the various directions just reviewed has been in a measure at the expense of clinical medicine, but very recently there has been a tendency to a trend in the opposite direction, and internal medicine has gradually been assuming its legitimate position in the art of medicine. Perhaps no branch of medicine now occupying the attention of the profession has acquired greater development, with results that are destined to be as satisfactory to the profession or of benefit to humanity, than that of preventive medicine. This is yet in its infancy, but in a comparatively very brief period it will have accomplished results which, while in their immediate display they may not be as brilliant as those acquired by the skilled surgeon, will be very much more far-reaching in bringing about that for which we are all aiming, the health and well-being of humanity.

Practically the time is at hand when the surgeon must be a skilled internalist; the knife may possibly be used as frequently in the future, and perhaps with a higher degree of art, but it will be done with a more scientific accuracy.

With the trend as above mentioned, therapeutics, which has in a measure been sacrificed at the expense of surgery, is again acquiring its normal position. Up to within a very brief period there has been great skepticism for many years on the part of many of the profession as to the efficacy of drugs, and never was there a more unfortunate occurrence for our art, nor a greater obstruction to its advancement. That drugs have a positive and legitimate action there can be no question. Where the profession has hitherto failed, is in failure to determine that action, and the principles which govern it. It often requires a higher degree of skill to accomplish this than it does to wield the knife.

Physiologic therapeutics may be included in what has been said of medicinal therapeutics.

After having made this brief résumé, one can take no other than an optimistic view of the profession, so far as the practice of the art and science of medicine is concerned. Neither of them will, perhaps, ever become perfected; but that will only eventuate in continual work and emulation by the profession.

That there is a dark cloud looming upon the ethical horizon of the medical profession, there is no question; and that that cloud has already acquired proportions larger than a man's hand is still less a matter of controversy. That cloud,

with its possible and probable effect upon the profession, is a matter now to be discussed.

In treating this subject, no stretch of the imagination will be indulged in, nor will there be any exaggeration of the facts; neither will there be any remedy suggested. A plain statement of the case will be made with a portrayal of rational conclusions.

It is a truism that human nature is constituted so as to be selfish; and that this is a wise provision of nature is undoubtedly true. It is only when man's selfishness is carried to an extreme, or becomes perverted, that it becomes one of the worst of evils. We see this illustrated in various ways every day of our lives. The bank embezzler, the forger, the trust which strangulates its weaker competitor, the libertine who shoots down in cold blood the object of his desires because of unrequited affections, the union laborer who takes the life of the workman who supersedes him and who destroys the property and injures the person of his employer—these are but a few of the many illustrations of the extreme to which selfishness may be carried, an extreme which results in human misery and degradation. This day in which we live is the day of the dollar; this nation of which we are citizens is noted the world over as being, of all other nations, the most recklessly, madly I might say, in pursuit of the dollar. The great object at the present time is to get money, whether it be by fair or foul means.

We hear a great deal said in these days of commercialism in all kinds of business. As conditions exist to-day, with the tendency to extremes heretofore referred to, commercialism is but the normal outcome. It is only when it is carried to the extreme that it becomes abnormal in its workings and pernicious in its results. Any business that becomes congested with a plethora of representation in its own particular line is sure to suffer from commercialism. That the medical profession in this country is crowded and congested to the limit is conceded everywhere. While it is true that there is always a demand for good men in all lines, it is also true that the cheap medical college in the United States has been a nefarious factor in developing the present existing conditions of affairs, and has done much toward contributing to disaster to the profession. The cheap medical journal is but an adjunct of the cheap medical college. But while this is true the cheap medical college and the cheap medical journal are not the only offenders, for the evil prevails in the entire profession, even extending to the extreme ramifications of the high and mighty in its ranks.

After the earthquake at San Francisco a drug-

gist whose store had been destroyed by the disaster, made the resolve that when he resumed business he would eliminate proprietary medicines from his stock and carry only legitimate prescription materials. His first prescription was for antikamnia with codiene, and prescriptions of this character at once became so numerous that he had the alternative of returning to the old regime or going out of business. In a paper before the last session of the A. M. A. Dr. Cabot of Boston stated that in one of the best drug-stores in that city 40 per cent of the prescriptions from physicians were for proprietary remedies. In following this practice, the profession is not only antagonizing its own interests, but is degrading itself and lowering its dignity by allowing some one else to do its own thinking. While this continues there is no wonder that our progress in therapeutics suffers. While speaking upon this subject, I can do no better than to introduce at this time an excerpt from the presidential address of Dr. Gore of the Missouri State Medical Association, at its last session: "That man who waits for the representative of some proprietary medicine to come and tell him what to give his patients possibly may escape being classified as a charlatan, but he certainly has very little respect for his own professional attainments and voluntarily surrenders his learning, his privileges, and his duties to some one else who knows absolutely nothing of the case. With the subtlety of an Iago, the proprietary man steals the wealth, position and reputation of an unsuspecting profession, and supplants professionalism with a damning commercialism, all because physicians allow it and are controlled by a habit which they disdain to control. He comes with a pleasing smile and presents you with a bottle of Gastritico, Hepatica or Duodenatica with his positive opinion that it will cure your patient, and you are assured it will because it bears the name of the organ affected; and, of course, it works; it just can't help it. And there you are; your individuality gone, your attainments sacrificed, your professional acumen handed over to organized greed.

"Eternal vigilance is not only the price of liberty in affairs of state, but in the medical profession as well. It is high time that we should shake off the lethargy which this practice begets, and assert our privilege to practice our noble profession in our own way and give our patients the benefit of our own knowledge, and not turn them over to the greedy maw of a soulless corporation which makes stuff to sell. It is my honest belief that proprietary medicine is doing more to undermine professionalism to-day than all other influences combined. It lulls the doctor to sleep with the insidious proposition that

it will do his thinking for him, and eases his conscience with the unction that he has done the best possible thing for his patients because he has medicated them with a nostrum which is backed by a corporation with lots of money behind it, and it would not, of course, spend its money on the remedy unless it was a good thing—for the corporation. Either this nefarious business must be stopped or professionalism is dead, and the erection of high standards of culture of medical men worse than a useless waste of time and money. The remedy lies at our own door and only requires a negative action on our part to effect a perfect cure. Stop prescribing them; your patients will stop taking them and their manufacture will suddenly cease. Their proprietors rely on us as their active agents for the sale of their products, and if we cease our participation in the spread of the business the only possible middleman between the manufacturer and the people has been removed and there is no longer possibility of contact."

But there is still a worse feature. Many of our medical journals, I might say a majority of them, contain papers by physicians written in the most shameful manner extolling this and that proprietary medicine or food. I venture the assertion that there is not a member of this Society who does not, on an average of two or three times a week, receive in his mail a pamphlet, brochure, or report from some medical journal, and written by a physician, containing an article of this character. It should be remembered that many of these articles are by men who are supposed to stand high in the profession and in the councils of the A. M. A.

The division of the fee between the specialist and the general practitioner is another menace to the profession, but it is done so clandestinely that it is difficult to measure the extent of the evil. Perhaps there is no greater source of demoralization to the best interests of the profession than that of making concessions on fees; in other words, cutting prices for services rendered. Did space and time permit the writer would be glad to dilate upon this subject, but he will content himself by simply stating, what we all know to be true, that he who follows the practice not only belittles himself, both with the profession and the public, but is a traitor to the profession and promotes its rupture. Contract and lodge work is but another form of the same practice.

While there are other evils of a greater or less degree of flagrancy which beset the profession, I shall refer to but one of them. Of course we look for nothing else in the charlatan and itinerant quack than to advertise, at which time he displays his abnormal powers to the public. We

all have to acknowledge the humiliating fact that men of whom we have a right to expect better things resort to this same practice to promote their individual ends; nor do they scruple as to the methods they use. Of all the evils referred to in this paper, none is more flagrant, none more audacious and none more worthy of condemnation and punishment by the profession.

The writer trusts that as he has at length reviewed this category of evils his hearers will not accuse him of being a kicker or suspect that he has a pessimistic tendency. The truth of what

has been stated cannot be denied. We are possessed of the disease and it is constantly becoming more virulent. The remedy which we must apply to ourselves may be disagreeable, but the more faithfully it is applied the greater the liability of cure. In order to be effective it must be applied radically. The A. M. A. is making something of a move in this direction, but there should be no faltering in the matter; and in order to insure success the Association should have the solid backing and support of the fraternity which it represents.

A REVIEW OF LEGISLATION IN MINNESOTA PERTAINING TO SANITARY PROBLEMS

BY H. M. BRACKEN, M. D.

Secretary and Executive Officer of the Minnesota State Board of Health

ST. PAUL

During the legislative session of 1907 the following bills in which the State Board of Health was especially interested, were introduced:

1. H. F. 454.—Amending Section 2137, R. L., 1905.
2. H. F. 463.—Pertaining to vital statistics.
3. H. F. 464.—Per diem for members of the Board.
4. H. F. 520.—Pertaining to regulations.
5. H. F. 727.—Pertaining to the abatement of a nuisance.
6. H. F. 775.—Appropriations.

The following bills, placing a certain responsibility upon the State Board of Health, were introduced by various parties:

7. H. F. 589.—The examination of the eyes of school children.
8. H. F. . . . (S. F. 540).—The examination of embalming fluids.
9. H. F. . . . —Undrawn poultry.
10. H. F. . . . —Dog-muzzling law.
11. H. F. 111.—The dog license bill (Bjorge).
12. H. F. 1187.—The dry license bill (Hen-nepin County delegation).
13. H. F. 1100.—Reporting names of township officials.
14. H. F. 1121.—County Clerks' records of births and deaths.
15. H. F. . . . —Mothers compelled to nurse children.
16. H. F. . . . —Hotel inspection.
17. H. F. 1089.—Hotel inspection (Lennon bill).

18. H. F. 859.—Care of non-resident contagious-disease cases.

The following bills were introduced by various parties, said bills having a bearing upon sanitary problems, but placing no responsibility upon the State Board of Health:

19. H. F. 479.—Location of livery stables.
20. H. F. . . . —Prohibiting the use of basements for school-rooms.
21. H. F. 642.—Home for inebriates.
22. H. F. 756.—Detention hospital at Agricultural College.

Other bills bearing upon sanitary problems, but placing the responsibility upon the Dairy and Food Department or upon other departments, were introduced; but with these we are not especially concerned at the present time.

Of these bills, No. 1 changed but a single word in Sec. 2137, R. L. of 1905, i. e., "epidemic" to "communicable." The section referred to gave local boards of health authority to act in dealing with *epidemic* diseases. A ruling was given from the Attorney-General's office to the effect that epidemic diseases meant diseases existing in epidemic form. With this interpretation the local boards of health were not in position to quarantine or regulate contagious diseases until they assumed an epidemic form. By the change of the words as indicated above, local boards of health now have authority to deal with all *communicable* diseases. This bill passed. (See Laws of 1907, Chap. 32.)

No. 2 was introduced upon request of the

Census Bureau at Washington in order to place Minnesota among the registration states. The Federal Census Bureau had made a ruling that it would recognize only those states having a compulsory burial-permit law as "registration states." This bill, while very voluminous, gives but two important points over our present law and regulations, viz.: a compulsory burial permit and the filing of the original returns of births and deaths in the office of this Board, instead of sending them at the end of each year to the various clerks of court. Other minor points are the appointment of sub-registrars in order to facilitate the issuance of burial permits; also more distinctly defining the duties of embalmers, physicians, and others in making returns. This bill passed. (See Laws of 1907, Chap. 454.)

No. 3 was introduced to provide a per diem of ten dollars for members of the Board while attending Board meetings. Under the old law this was allowed, but it was cut out in the revision of 1905. This bill was also considered in the Senate (S. F. 580), and was there passed upon favorably. In the House the bill was referred to the Committee on "Compensation of Public Officials," which committee recommended a reduction to five dollars per diem. When the Senate bill reached the House, it, too, was referred to the above committee, which recommended that it be indefinitely postponed. The House bill was placed on general orders, where it died peacefully on April 23. The members of the Board have therefore only their expenses paid while in attendance at Board meetings. One of the representatives, in speaking of this request for a per diem, could not see any reason for placing the members in a different position from that of members of the Board of Regents and of the Normal School Board, etc. He made the point that Regents considered the honor of an appointment sufficient compensation so long as their actual expenses were paid while in attendance upon meetings of the Board, and he thought members of the Board of Health should look at matters in a similar light.

No. 4 was introduced to improve the wording of Sec. 2131, R. L. of 1905, and to give the State Board of Health power to make additional regulations. The antivaccinationists took exceptions to this bill and sent a circular letter broadcast throughout the Senate and House, urging the senators and representatives to use their influence against the bill. As usual, their communication was made up of a series of misstatements. The St. Paul Dispatch kept these parties company in denouncing this bill. Finally, the idea of amending the Section referred to was dropped and the new

essentials only were framed into a bill and substituted for the original. On Monday, April 15th, this substitute was placed on general orders in the House, where it was passed Saturday, April 20th. It was introduced into the Senate April 22d, where it died, April 23d, with many other bills.

No. 5 was introduced to provide for the abatement of a nuisance where the owner or occupier of property neglected or refused to obey the orders given by the local health authorities. The bill has become a law and will greatly aid health authorities in maintaining a more cleanly condition in cities and villages. It is of especial value to cities of the first class in dealing with the scavenging problem. This bill is now a law. (See Chap. 425, Laws of 1907.)

No. 6 dealt with the question of appropriations. An increase was asked over present appropriations, as follows:

	Per annum
(a) For executive work	\$21,000
(b) For laboratory work	20,000
(c) For Pasteur institute	5,000
(d) Publishing reports	5,000
*(e) Embalming fluid examination....	750

The Sub-appropriation Committee of the House and Senate granted the following:

	Per annum	(New)
(e) For executive work	\$6,500	\$3,500
(b) For laboratory work....	13,000	2,000
(c) For Pasteur institute....	5,000	5,000
(d) Embalming fluid exam..	500	500
(e) To prevent deficit (1907).....	\$1,000	

While we have not secured the increase asked for, and shall be crippled for want of funds, we have every reason to be satisfied with the amount of money granted when we consider the great demand made upon the state for various appropriations during the last session of the legislature. Of the requests for executive work, one was for \$5,000 to carry on engineering work. One thousand dollars was granted. This is not enough to pay the salary of a good engineer. The Board will therefore be obliged to secure some one on part time only. Another request was for \$5,000 to carry on the work connected with vital statistics. Fifteen hundred dollars only were granted. The Board is at present under an expense of about \$4,000 per annum in handling its vital statistics. The amount above \$1,500 will therefore have to be taken out of the general fund and will cripple the general work to that extent. Another request was for \$5,000 per annum to deal with communicable diseases. Had this amount been granted

*See No. 8.

the Board could have carried on a line of work, especially in relation to tuberculosis and typhoid fever, that should be of great value to the state. Only \$2,500 per annum was granted for this work, and consequently the efforts of the Board will be limited along the lines indicated above.

Of the requests for laboratory work was one for \$5,000 for the establishment and maintenance of branch laboratories. It is very important indeed that such should be established as rapidly as possible at certain points in the state. Nothing was granted for this purpose. The Board already has a branch laboratory at Duluth, which will have to be maintained out of the general laboratory appropriation.

No. 7 was introduced by Representative Timberlake, of Minneapolis. It was an excellent bill, suggested to Mr. Timberlake by some outside party. It passed the House, but for lack of attention did not pass the Senate. Had it become a law it would have been of great assistance to the Board in carrying out more thoroughly the work which it began along these lines in 1904. This bill died with others in the Senate April 23d.

No. 8 was introduced at the request of certain embalmers who had been carrying on during the past few years the study of embalming fluids at the expense of the State Funeral Directors' Association and the National Funeral Directors' Association. A request was made for a single appropriation of \$1,500. The two associations referred to above have already spent considerably more than this amount of their own money in carrying on such investigations. This bill was provided for in the Omnibus bill, \$500 per annum for two years being granted for this work.

No. 9 was introduced into both House and Senate to meet the demands of certain constituents who objected to the present methods of handling game and poultry in cold storage. The bill in both House and Senate died in committee.

No. 10 was introduced as a means of controlling and eliminating rabies from the state. The bill was killed.

No. 11 was introduced as a milder means of controlling rabies than the muzzling of dogs. Provision was made in this bill for a certain amount of the license money (about 20 per cent) being turned to the State Board of Health to maintain a Pasteur institute. This bill passed the House, but was declared unconstitutional by the Judiciary Committee of the Senate and was therefore killed in the Senate. Had this bill become a law it would have been unnecessary for the Board to ask

\$5,000 for the maintenance of a Pasteur institute.

No. 12 was introduced to provide for a system of licensing dogs, the same to be under the control of the humane societies in cities of the first class. This bill was not introduced until after No. 11 was found to be unconstitutional. Its introduction was so late in the term that it died with many other bills at the close of the legislature.

No. 13 was introduced to legalize the securing of the names and addresses of members of township boards, and township clerks by the State Board of Health. In this bill provision was made for furnishing such records to certain parties interested in securing the same. This bill was introduced too late to secure its passage, and therefore died with others, April 23d.

No. 14 was introduced at the request of a county clerk who favored securing a uniform system of recording births and deaths in the office of the clerk of the district court. This bill also fell by the wayside. It is a question whether it would have been of any value since the bill referred to under No. 2 provides that the original returns shall from this time on be kept in the office of the State Board of Health, abstracts only being sent at the end of each year by said Board to the clerks of the district courts.

No. 15 was introduced at the request of Mr. Savage, who has under his charge a home for neglected and abandoned children. It had for its purpose the more thorough care of young infants. The bill was passed by the House and Senate, and was reconsidered by the Senate and killed. Had it become a law it would have thrown some statistical work upon the State Board of Health.

No. 16 was introduced upon the request of traveling men. At first an attempt was made to create an independent board to carry out the inspection of hotels. This plan did not seem feasible. An attempt was then made to place the inspection under the State Board of Health, but this was taken up too late in the session and the bill was laid on the table about April 16th, to die.

No. 17 was introduced as a substitute for No. 16. The inspection of hotels in this case extended only to fire protection, and placed the responsibility upon the Labor Commissioner through his inspectors. The bill passed the House April 23d, but failed to pass the Senate.

No. 18 was introduced to cover an oversight in the revision of the general statutes. Under the old law the state was required to pay for the care of non-residents ill with a

contagious disease. No such provision exists in the revised statutes. Certain districts, especially in the northern part of the state, have suffered in consequence of this change, the expense of the care of non-residents being thrown upon the various counties. Had this bill passed it would have thrown the expense of the care of all non-residents of a county ill with a contagious disease upon the state. The bill was poorly worded, and died a natural death.

No. 19 was introduced to protect people against the annoyances resulting from the location of livery stables near residences. This bill, with others, fell by the wayside.

No. 20 was introduced by certain parties from Minneapolis because they objected to the school board of that city locating school-rooms in basements. The bill passed the House. Up to that time the Minneapolis School Board had treated the bill somewhat as a joke, and one member was heard to state in public that they would continue to conduct schools in basements in Minneapolis even though the bill became a law. However, when this bill was passed over to the Senate the Minneapolis School Board appeared against it, and finally promised to discontinue the use of basement school-rooms in the near future (a date being set) without any further action on the part of the Legislature. The bill was therefore dropped. It was stated that 3,500 school children were cared for in basement school-rooms in Minneapolis. The statement was made in public that the basement school-rooms must be continued or these 3,500 school children put on half-time in other school-rooms. Many, I presume, would consider this alternative preferable to attending school in some of the basement school-rooms now in use.

No. 21 was introduced in order to provide a home for inebriates, thus giving them a chance to recover. The bill provided that 2 per cent of the liquor-license money should be used in securing and maintaining such a home. This bill passed (see Chapter 288, Laws of 1907).

No. 22 was introduced as a result of its demonstrated need during a recent epidemic at the Farm School. No provision was made in the appropriation for such a hospital.

THE BILL THAT DID NOT PASS

Section 2131, Revised Laws of 1905, reads as follows:*

The Board may adopt, alter and enforce reasonable regulations of permanent application throughout the whole or any portion of the state, or for specified

periods in parts thereof, for the preservation of the public health. Upon the approval of the *Attorney General, and the due publication thereof*, such regulations shall have the force of the law, except in so far as they may conflict with a statute or with the *charter or ordinances of a city of the first class* upon the same subject. In and by the same the Board may control, by requiring the taking out of licenses or permits, or by other appropriate means, any of the following matter:

1. The manufacture into articles of commerce, *other than food, of diseased, tainted, or decayed animal or vegetable matter;*

2. *The business of scavenging and the disposal of sewage;*

3. The location of mortuaries and cemeteries, and the removal and burial of the dead;

4. *The management of lying-in houses and boarding places for infants, and the treatment of infants therein;*

5. The pollution of streams and other waters and the distribution of water by *private persons* for drinking or domestic use;

6. The construction and equipment, in respect to sanitary conditions, of schools, hospitals, almshouses, prisons, and other public institutions, and of lodging houses and *other public places kept for gain;*

7. The treatment, in hospitals and elsewhere, of persons suffering from communicable diseases, the disinfection and quarantine of persons and places in case of such diseases, and the reporting of sicknesses and death therefrom;

8. The furnishing of vaccine matter; the assembling during epidemics of smallpox, with other persons not vaccinated. But no rule of the State Board, or of any public board or officer, shall at any time compel the vaccination of a child, or shall exclude, except during epidemics of smallpox and when approved by the local board of education, a child from the public schools for the reason that such child has not been vaccinated. Any person thus required to be vaccinated may select for said purpose any licensed physician, and no rule shall require the vaccination of any child whose physician shall certify that by reason of his physical condition vaccination would be dangerous;

9. The accumulation of filthy and unwholesome matter to the injury of the public health, and the removal thereof, and

10. The collection, recording, and reporting of vital statistics by *public officers, and the furnishing of information to such officers, by physicians, undertakers, and others, of births, deaths, causes of deaths and other pertinent facts.*

House File No. 520 was introduced by Rep. W. A. Nolan Feb. 25th, 1907, and reads as follows:

**That Section 2131, Revised Laws of 1905, be and the same is hereby amended to read as follows: The Board may adopt, alter, *modify, correct and repeal* reasonable regulations of permanent application throughout the whole or any portion of the state, or for specified periods in any part thereof, *when such Board shall deem it necessary* for the preservation of the public health, *affecting any matter hereinafter named, and thus control in so far as relates to sanitary conditions*, by requiring the taking out of licenses and the payment of fees therefor, by inspection, or by any other appropriate means; the manufacture into articles of commerce of decayed animal or vegetable matter. Conducting lying-in houses and boarding places for infants, and the treatment of infants therein. The accumulation of filthy and unwholesome matter to the injury of the public

*The words in italics in this section quoted were left out of the bill introduced to amend this section during the session of 1907.

**The italicized portions indicate new material.

health, and the removal thereof. *Barbering and barber shops. Bath parlors and bathing establishments. Transporting persons for hire in railway and street cars and other public conveyances and the conditions of railway stations and railway shops. Packing houses, slaughter houses, butcher shops, and wagons for delivering and peddling meat, bakeries, flouring mills, canning factories, confectionery factories and creameries. School houses, hotels, restaurants, boarding houses, lodging houses, and industrial camps. The construction and equipment of school buildings, hospitals, almshouses, prisons, or other public buildings; all future plans and specifications for the construction of such buildings, or for the remodeling or extension of such buildings, shall be submitted to the State Board of Health for its approval before the advertisement of the same for bids; the construction of such buildings shall not be begun until such plans have been approved by said Board. The location of mortuaries and cemeteries, and the removal and burial of the dead. The treatment of persons suffering from communicable diseases, and the disinfection and quarantine of persons and places where such disease has existed, and the reporting of sickness and death therefrom. The association during epidemics of smallpox of persons not vaccinated, but no rule of the State Board of Health or of any public board or officer, shall at any time compel the vaccination of a child, or shall exclude, except during epidemics of smallpox and when approved by the local board of education, a child from the public schools for the reason that such child has not been vaccinated. Any person thus required to be vaccinated may select for such purpose any licensed physician, and no rule shall require the vaccination of any child whose physician shall certify that by reason of his physical condition vaccination would be dangerous. The furnishing of vaccine matter. The collection, recording and reporting of vital statistics. Scavenging. Disposal of sewage. The pollution of streams and other waters, and the distribution of water for drinking and domestic use. The sanitary control and inspection of all proposed water and sewerage systems within the state; all future plans and specifications for the construction of new or the extension of old water supply systems, or sewerage systems, shall be submitted to the Minnesota State Board of Health for its approval so far as relates to sanitary problems before the advertisement of the same for bids; the construction of such plants shall not be begun until the plans have been approved by said board. Upon due publication thereof, such regulations shall have the force of law except in so far as they may conflict with the statutes upon the same subject. After notice and an opportunity to be heard, the Board may revoke any license by it granted.*

This amended bill was drawn in the office of the Attorney General, the legal adviser of the State Board of Health. It looks somewhat formidable until compared with the Section which it amends. This comparison shows that "with the approval of the Attorney General, and the" has been left out, and "or with the charter or ordinances of a city of the first class" is also left out. The reason for dropping the first of these was because it is an open question whether the legislature can delegate power to the Attorney General to make rules and regulations for the State Board of Health. The reason for dropping the second of these was because such legislation should be for the whole state and not make

an exception of cities of the first class. It would be strange, indeed, to make regulations governing railways and car sanitation that could not be enforced in cities of this class.

The wording of the entire section was changed to some extent in reconstructing it because the original wording was open to criticism. The points added to the section were thought to be very important aids in the more efficient work of the Board. The revision made provision for sanitary regulation of barbering and barber shops. At present there is no control over these places, and it is a well known fact that certain diseases are spread from unsanitary barber shops. The better class of barbers throughout the state were anxious to have this authority given to the State Board of Health. The revision made provision for sanitary regulation of railway coaches, stations, work shops, etc. There has of late been much criticism upon certain conditions in connection with railway and car sanitation. Nearly a year ago the State Board of Health conferred with railway officials representing all roads operating in Minnesota, and formulated certain regulations which the railroad officials agreed to be governed by and to instruct their employees to carry out their enforcement. When all was in readiness to put these regulations into force, the legal advisers of the Board stated that under the then existing law the Board had no authority to make such regulations. Had the legislature passed this bill these regulations might now be in force and the sanitary conditions in stations, cars, etc., be greatly improved.

All are familiar with the agitation that was carried on a short time ago against the great packing houses of the country. The conditions in these packing houses at that time were as nothing compared with the filthy conditions of the country slaughter houses. It should be evident, therefore, to every one that slaughter houses, butcher shops, etc., should be placed under the control of some single sanitary authority. It is almost impossible to persuade township officials to take action looking to the permanent suppression of filthy conditions in and around country slaughter houses. In a way, the agitation for more thorough federal inspection has resulted in direct injury to the consumer of local meats. Federal inspection is free; therefore state inspection must also be free. The federal government appropriated \$3,000,000 for the first year, to carry on inspection under the new regulations. The state cannot be persuaded to make any such appropriations; therefore there can be no state inspection without some such authority as that asked for in this bill. Still further, the increased activity in federal inspection tends to

shut out suspicious-looking animals from the federal market, and these are more than ever thrown upon the local market. We constantly hear people congratulating themselves and others that the new federal inspection regulations assure a better quality of meat, when, as a matter of fact, they do nothing of the kind, for even in the larger cities of Minnesota but a very small proportion of the meat consumed has passed federal inspection, while in the smaller cities and villages, and in the country districts, almost the entire meat supply is from local markets where there is no inspection whatever. The State Board of Health has already passed certain regulations relative to the more sanitary condition of slaughter houses and butcher shops, but it cannot enforce these regulations unless it has authority to carry on a system of inspection, as was made possible under the suggested amendment. A short time ago a butcher was heard to say that if the regulations of the State Board of Health, as they now exist, were enforced, he would go out of business. This same butcher appealed to one of the state senators during the last session to use his influence against any regulations which the State Board of Health might seek looking to the more rigid supervision of slaughter houses and butcher shops. This same butcher was killing animals in a filthy old shed that had been built for farm use. If the country butchers cannot conform to the present requirements of the State Board of Health, the sooner they go out of business, the better it will be for their customers. One of the vile customs practiced by country butchers is that of keeping hogs under the most filthy conditions at their slaughter houses and feeding them on offal. The conditions of these hog pens around the slaughter houses is simply beyond description. It needs an Upton Sinclair to investigate and report upon such conditions. Not long ago one of the members of the State Board of Health, who was not accustomed to inspecting country slaughter houses, went with me to visit a slaughter house in the suburbs of Minneapolis. The conditions at this place did not begin to compare with those found at many other slaughter houses throughout the state. Yet this individual was thoroughly sickened, and disgusted to such an extent that he did not relish meat as an article of diet for a considerable time after this inspection.

No one, I presume, will question the desirability of having industrial camps (railroad camps, lumber camps, etc.) under sanitary supervision. The country districts resent being burdened with the responsibilities of these transients. Their sanitary control must therefore be under the jurisdiction of some higher authority.

The State Board of Health already has sani-

tary supervision over the construction of certain buildings. The request in the amending bill that plans for such buildings should be approved *in advance* of their construction is most important, for if the Board is to have the responsibility of sanitary features in the construction of these buildings it should exercise the same in advance rather than to wait until after the buildings are under way, thus necessitating expense and delay in completing the building. The same is true with regard to the request in the amending bill, that the Board be given authority to pass upon the plans of all future water supplies and sewerage systems. The Board now has authority to prevent the pollution of waters used for domestic purposes. A city or village may ignore or defy the Board's advice in matters pertaining to the construction of its sewerage system; but the Board is in position after such city or village has spent a considerable sum of money in putting in a sewerage system to absolutely prohibit the discharge of the sewage into a stream or lake, thus necessitating a larger expenditure of money than would have been necessary had the municipality in the first instance followed the advice of the board. Had the H. F. 520 become a law it would have been of great assistance in a financial way in the long run to the very municipalities that used their influence against the bill.

The anti-vaccinationists made a great deal of fuss over the changing of the word "assembling" to "association" in sub-division 8 of Section 2131, relating to the control of smallpox. There was no intention of changing this division. The sentiment of the Board is in favor of giving the anti-vaccinationists all the rope they want. The change in words indicated above was purely a typographical error. As a matter of fact, it is a question whether legally any greater authority is given to the Board under the word "association" than under the word "assembling."

The anti-vaccinationists attacked this bill on the grounds that it gave the State Board of Health too much power. Said Board is seeking only to serve the interests of the state. Minnesota is not advancing as rapidly in sanitary matters at the present time as are many other states no better equipped for such work. The organization of the anti-vaccinationists known as "The Minnesota Health League" sent a circular letter to every representative and senator, asking them to use their influence against this bill because (1) they did not believe in the need of a State Board of Health, (2) they did not believe in giving the State Board of Health power to make rules and regulations, (3) they did not believe in releasing the State Board of Health from the restraining power of the Attorney General, (4)

they did not believe in allowing the Board to revoke licenses granted by itself, (5) they did not believe in allowing the passage of general regulations to cover the whole state; and, finally, they boasted that a somewhat similar bill had been killed in a previous legislature through their influence. These points of antagonism from the anti-vaccinationists do not need arguing in this paper. Suffice it to say that the anti-vaccinationists in arguing against giving the Board power to make regulations were arguing against a power that has been recognized in this state since the passage of the sanitary laws in 1887, as also against the power that is granted in all the states having the most efficient sanitary supervision. The Revision Commission of the General Statutes certainly thought it right to give the Board power to make general rules and regulations; otherwise it would not have cut out certain matters that were regulated by law under the old statutes placing these problems under Section 2131 of the Revised Statutes, as for example, baby farming, rendering establishments, bakeries, vital statistics (to some extent), etc. The Board never asked for this authority. In fact, it urged keeping these matters under laws rather than under regulations of the Board; but the Revision Commission insisted on making these changes. A very important question is, can the legislature delegate legislative power to the State Board of Health? If it cannot, no one is more anxious to learn the true position of the Board than the Board itself. Apparently such power is recognized in other states, for in a recent review of legislation, the statement is made, in speaking of Pennsylvania, that the health commissioner and his advisory board "have very great legislative power, and the commissioner alone has power under certain circumstances to annul the regulations of local boards." The "Commissioner" in Pennsylvania has taken the place of the old state board of health. It can thus be seen that the power which is put into the hands of nine men, as a board in Minnesota, is given to one man in Pennsylvania. Again, the same writer, in speaking of California, says: "As originally constituted, this Board was largely advisory, but by an act of last year ('05, ch. 340) its powers have been greatly extended. It is given full authority to make rules and regulations. * * * Certainly the powers given are great, and the control of the state over local sanitation is marked. Centralization is here proceeding apace. It is generally conceded that the work of the state health authorities is difficult to regulate by fixed laws, for conditions are constantly changing and emergencies presenting themselves. Those who are engaged in studying the great sanitary problems should be fair

and safe judges of conditions needing regulation. If sanitary authorities abuse their opportunities then it is time for legislators to call a halt." If the citizens of Minnesota who are most deeply interested in the task of improving sanitary conditions are not satisfied with those to whom such authority is given, it is their privilege to protest and call for a change.

A substitute for House File 520 was introduced in the House by Mr. W. A. Nolan April 15th and reads as follows:

The Minnesota State Board of Health, by and with the sanction of the Attorney General, may adopt, alter, modify, correct and repeal reasonable regulations of permanent application throughout the whole or any portion of the State, or for specified periods in any part thereof, when such Board shall deem it necessary for the preservation of the public health affecting any matter hereinafter named, and thus control in so far as relates to the sanitary conditions, by requiring the taking out of licenses and the payment of fees therefor, by inspection, or by other appropriate means, the transporting of persons for hire in railway and street cars and other public conveyances; the condition of railway stations and railway shops; barbering, barber shops and barber schools; packing houses, slaughter houses, bakeries, and industrial camps. Upon due publication thereof, such regulations shall have the force of law except in so far as they may conflict with the statutes upon the same subject. After notice and an opportunity to be heard the Board may revoke any license by it granted.

In substituting the above for the original House File 520, all attempts at correcting the weak points in Section 2131, R. L. 1905, were abandoned and only the essentials of the original bill were presented to the legislature. Certain of the representatives insisted on having the words "by and with the sanction of the Attorney General" in this substitute, although the opinion of the legal advisers of the Board (representing the Attorney General) maintained that while the legislature might delegate to the State Board of Health authority to make rules and regulations it could hardly delegate such authority to the Attorney General. An editorial in the St. Paul Dispatch, referring to this substitute, says:

The State Board of Health will not yield in its determination to assume greater governmental powers over every portion of the state and particularly to usurp the place of the local health authorities in the cities. The bill (referring to H. F. 520), whose summary passage was blocked in the House a few weeks ago, has been revived and given a new dress in the effort to conceal its essential viciousness. * * * Though some of the indefensible provisions of the bill have been expurgated, it remains as abominable as before in the provisions that remain. An amendment has been forced into the measure to require that the Attorney General give his consent and approval, as a necessary preliminary to the promulgation of any health regulation, just as is required under the present law. But there is no exception that the aforesaid regulations, adopted "when such Board shall deem it necessary for the preservation of the public health," shall not apply to cities of the first class. Local ordinances on subjects remotely connected with the public health must yield to the rule of Bracken.

To accomplish this design, novel and sweeping grants of power are made to the State Board of Health. The board is given unlimited power to regulate several kinds of business, by rules that shall have the force of law, in respect to the transportation of persons in railway cars and other conveyances; the condition of railway stations and railway shops; barbering, barber shops and barber schools; packing houses, bakeries and industrial camps.

All the above lines of industry are now no longer to be governed by the city councils or by acts of the legislature, but the state board of health has full power to enforce any ukase that it, or its managing agent, shall think necessary. The board may require the taking out of licenses, which must be paid for, in order to conduct any line of business above mentioned, and may revoke any such license, in its discretion, and put the license holder out of business. The bill is strangely silent as to the disposition of the money received as license fees, hence it must be presumed that such funds will be part of the revenue of the board, to be used as any other money that may come into hands for cigars, dinners and such necessary expenses.

Did anybody ever hear of such an unlimited power of taxation, handed over by the legislature to a close corporation, as is granted by this authority to license and revoke licenses? There is no demand for any such taxation as this bill contains. There has been no fault found with the ordinances of the cities on the subjects above enumerated, nor is there any desire on the part of the people to abandon their right to govern themselves through their city councils.

The attempt to extend the sway of the state board of health over local affairs can only be explained as a manifestation of a mania for power.

The only excuse for quoting this editorial so fully and commenting upon it is the desirability of explaining to the medical profession and others who are capable of judging the need of sanitary regulations and the true condition of affairs. The State Board of Health which the Dispatch delights in attacking is at present made up of the following membership: Dr. J. B. McGaughey, Winona; Dr. C. Graham, Rochester; Dr. Henry Hutchinson, St. Paul; Dr. Alex. J. Stone, St. Paul; Dr. W. A. Jones, Minneapolis; Dr. C. W. Moore, Eveleth; Dr. A. J. Gilkinson, Osakis; Dr. F. N. Hunt, Blue Earth, and Dr. H. M. Bracken, Minneapolis. Do the men composing this Board deserve such an attack from a paper that should be one of the leaders in the state? Should the work of this Board as represented by H. F. 520 be referred to as vicious? It must be understood that the bill was framed in the Attorney General's office and submitted to every member of the Board, for his consideration and criticisms, before its introduction into the legislature. The Dispatch states that "An amendment has been forced into the measure to require that the Attorney General give his consent and approval, etc." By assuming this position the Dispatch sets its legal knowledge above that of the office of the Attorney General. Further, it states that local ordinances on subjects remotely connected with the public health must yield to the rule of Bracken. As a matter of fact, the

State Board is in an advisory capacity in the first instance to local boards of health, and the local boards of health look largely to the State Board for assistance. This is true even in the cities of the first class. The relationship between the sanitary authorities in these cities and the State Board of Health should be of the most friendly. The Dispatch refers to the unlimited power asked to regulate several kinds of business, referring to transportation of persons in railway cars, etc. Cities of the first class have no control over the railways outside of the city limits. It is generally recognized by the traveling public, as well as by railway officials, that certain regulations bearing upon car and railway sanitation in general would be very helpful to all parties concerned. As a matter of fact, the representatives of all the railway companies operating in Minnesota conferred with the State Board of Health during the summer of 1906, and as a result of this conference certain regulations were formulated; but a ruling from the Attorney General's office to the effect that these regulations could not be put into force under the then existing law, gave the incentive to the Board to seek such legislation as to make the rules effective. As it is, the rules cannot yet be given the force of law because of the failure of the last legislature to pass H. F. 520. They will, however, be published in the near future as they have been passed upon by the Board, and used for educational purposes. When published the people of Minnesota will have an opportunity to judge whether they are "vicious" or whether they indicate a "mania for power."

The Dispatch comments on the fact that provision was made in this bill for the Board to require the taking out of licenses, and also giving it power to revoke the same. It would seem from the editorial in the Dispatch that this was something remarkable and unusual. As a matter of fact, under the old law the Attorney General of some years ago ruled that the State Board of Health could license embalmers and charge a fee for same. The standard of embalmers was decidedly raised in Minnesota by such a procedure. Certain rules for the governing of licensed embalmers were laid down, and it was recognized that the Board had a right to revoke a license granted under these provisions should the embalmer not conform thereto. Minnesota, by this action of the Board, was put in the forefront in matters pertaining to the transportation and burial of the dead, and the licensed embalmers were proud of their position and standing throughout the country. When embalmers had been working under such a system of license for years, and had fully demonstrated the advantage of such,

they went before the legislature asking to have this action of the State Board of Health confirmed by a special law, and this request was granted.

Prior to 1905 the State Board of Health, under a legislative act, had authority to license rendering establishments. Under the Revised Statutes this authority is granted to the Board under rules and regulations (Sec. 2131, R. L. 1905). It is conceded, I presume, that the Board has authority to revoke a rendering license if the party to whom the license is granted does not live up to the requirements of the license. If this were not true the Board might license an individual to maintain a nuisance.

The Dispatch states in its editorial: "The bill is strangely silent as to the disposition of the money received as license fees." Either the Dispatch displays ignorance in such a statement or an intent to mislead. The laws of the state define, without any specific statement in such a bill as the one under consideration, where moneys collected by a department must go. The money collected by the State Board of Health for embalmers' licenses and for rendering licenses has been turned over to the State Treasurer, as required by law.

The Dispatch intimates that this money might be used "for cigars, dinners and such necessary expenses." As the Dispatch has been harping upon this matter for more than two years an explanation may be offered. The members of the Board are entitled to their expenses while attending meetings of the Board. It has been the custom of the secretary to arrange that the members of the Board should dine together rather than that when adjournment is taken at noon the members should be scattered. By such an action the secretary supposed that he was serving the best interests of the state, for under such an

arrangement it was possible to bring the Board together again easily for the afternoon session. Still further, the Board members when dining together were, as a matter of fact, discussing Board problems and actually prolonging their executive session. It costs no more to serve a meal for the entire Board as a body than for the individuals to dine at different places. It is no greater expense to the state for the secretary of the Board to pay for all of the meals under one bill than for the individuals to render separate accounts. For years it was the custom to recognize smoking as a part of the dinner, and the item of cigars appeared in bills which were passed upon by the different state departments auditing such bills. Finally, it was ruled that cigars were not a part of the necessary expenses of the members of the Board. This item was therefore cut out of the bills rendered to the State Auditor. The members still have their cigars, but they are no longer paid for by the state. The secretary of the Board is not and never has been a smoker.

Finally, if it was illegal for the legislature to grant power to the State Board of Health to make rules and regulations, then the action of past legislatures, of past attorney generals, of the commission which had in charge the revision of the General Statutes, and of the legislatures of all of the most advanced states in matters pertaining to sanitation, is illegal.

It is to be hoped that before the session of the next legislature the thinkers of this state will have given these problems thorough consideration. Minnesota has been a leader in sanitary movements. It has not been progressing as rapidly during the past few years as have other states, such as Pennsylvania, Ohio, New York, California, New Jersey, Massachusetts, etc. If it is to keep in the forefront its legislators must be influenced by the best thinkers in the country.

PUBLIC HEALTH LAWS OF MINNESOTA PASSED IN 1907

Chapter 327—An act to amend section 2137, Revised Laws 1905, relating to the enforcement of laws relating to communicable diseases.

Be it enacted by the Legislature of the State of Minnesota:

Section 1. That section 2137, Revised Laws, 1905, be and the same is hereby amended so as to read as follows:

"2137. Necessary Help—To Whom Chargeable—Every local board of health shall employ, at the cost of the town, county or place in which

it exists, all medical and other help required for the suppression of communicable diseases, or for carrying out within its jurisdiction the lawful regulations and directions of the State Board and its officers and employes; and, upon its failure so to do, the state board may employ such assistance at the local charge. But all persons whose duty it is to care for another infected with a communicable disease, to isolate such patient, or to fumigate or otherwise disinfect any article or place, shall be liable for the reasonable cost thereof to anyone performing such duty, or to any

county, town or municipality paying such cost.

Sec. 2. This act shall take effect and be in force from and after its passage.

Chapter 425—An act to provide for the abatement of a nuisance, source of filth or cause of sickness.

Be it enacted by the Legislature of the State of Minnesota:

Section 1. Whenever any nuisance, source of filth, or cause of sickness is found on any property, the health officer of the city, village or township shall order the owner or occupant thereof to remove the same at his expense within a time not to exceed ten (10) days, the exact time to be specified in the notice. Said notice shall be served by the sheriff, marshal or other peace officer, by delivering a copy thereof to the owner, occupant or agent of such property. If the owner of the property is unknown or absent, with no known representative or agent upon whom notice can be served, then the sheriff, marshal or other peace officer shall post a written or printed notice upon the property or premises, setting forth that unless the nuisance, source of filth, or cause of sickness is abated or removed within ten (10) days, the sheriff, marshal or other peace officer will abate or remove, or cause to be abated or removed, at the expense of the owner, the nuisance, source of filth, or cause of sickness complained of and found to exist; provided, that in carrying out the provision of this act no debt or claim against any individual owner, or any one piece of real property, shall exceed the sum of twenty-five (\$25) dollars, that in all cities in this state now or hereafter having a population of over 50,000 inhabitants, the collection and disposal of night soil from privy vaults and contents of cesspools shall be under the charge and supervision of, and shall be done by the department of health of such cities.

Sec. 2. If the owner, occupant or agent shall fail or neglect to comply with the requirement of said notice, then said health officer shall proceed to have the nuisance, source of filth, cause of sickness, described in said notice, removed or abated from said lot or parcel of ground and report the cost thereof to the city clerk, or other like officer, and the cost of such removal or abatement shall be assessed and charged against the lot or parcel of ground on which the nuisance, source of filth or cause of sickness was located, and the city clerk, or other like officer, shall, at the time of certifying their taxes to the county auditor, certify the aforesaid costs, and the county auditor shall extend the same on the tax roll of the county against said lot or parcel of ground, and it shall be collected by the county treasurer and

paid to the city, village or township, as other taxes are collected and paid.

Sec. 3. This act shall take effect and be in force from and after its passage.

Chapter 454—An act to amend sections 2140 and 2141, Revised Laws, 1905, relative to the collection of vital statistics, and providing penalties for violation thereof.

Be it enacted by the Legislature of the State of Minnesota:

Section 1. That sections 2140 and 2141, Revised Laws, 1905, be and the same are hereby amended to read as follows:

"Section 2140. Vital Statistics,—Births and Deaths.—(a) The State Board of Health shall have general supervision of the state system of registration of births and deaths and shall prepare and furnish at the expense of the state, on forms to be printed by the state printing commission, all blanks for obtaining and preserving a record of the same. The secretary of said board shall be known as state registrar and shall be the administering officer of the state in connection therewith. All local registrars and sub-registrars to whom such blanks are furnished shall obey the directions of said board concerning the use, filing and return thereof. If any such officer shall refuse or fail to obtain and furnish the information so required, the State Board of Health may obtain the same by other proper means, and the reasonable costs thereof shall be charged to and paid for by the city, incorporated village or township where the expense is necessarily incurred.

"(b) Each city, borough, village and township shall, for the purpose of this act, constitute a primary registration district. In cities, boroughs and villages, the health officer shall be, and shall be known as, the local registrar. In townships, the town clerk shall serve in a similar capacity. The governor may remove from office, after notice, and an opportunity to be heard, any local registrar who fails or neglects to discharge the duties of his office, and thereupon the State Board of Health may appoint another in his place. The local registrar shall appoint a deputy who shall act in his stead in case of his absence, illness, or disability: said deputy shall accept such appointment in writing and shall be subject to the same rules and regulations governing the actions of the local registrar. Whenever it may appear necessary to said board, it may also appoint one or more persons to act as sub-registrars to receive certificates and issue burial or removal permits, and may designate the district over which such sub-registrars shall have jurisdiction. Sub-registrars shall perform the same duties, and be liable to the same penalties for failure or neglect so to

do, as herein provided for registrars, except that sub-registrars shall note thereon the date that a certificate of birth or death is filed with them, shall thereupon sign the same, and within ten (10) days thereafter, forward the same to the registrar of the proper city, village or township.

"(c) Local registrars are hereby charged with the strict and thorough enforcement, under the supervision and direction of the State Board of Health, of the provisions of this act, within their respective districts. They shall make an immediate report to the State Board of Health, of any violation of this law coming to their knowledge, and thereupon said State Board of Health shall have authority to investigate the same by agent or otherwise, and all registrars shall aid, upon its request, said board in such investigation. Such State Board may report cases of violation of this act to the prosecuting attorney of the proper county with the statement of the facts and circumstances, and thereupon such county attorney, if in his judgment the evidence is such as to warrant prosecution, shall forthwith initiate the necessary prosecution and conduct the same to as speedy an end as possible.

"(d) The body of any person whose death occurs in any primary registration district of this state shall not be interred, deposited in a vault or tomb, cremated or otherwise disposed of, or removed from, or into, any such registration district, until a permit for burial or removal shall have been issued by the registrar of the registration district in which the death of such person occurred, in accordance with the terms thereof. No burial or removal permit shall be issued by any registrar until a certificate and return of death has been filed with him as hereinafter provided. Transit permits, duly issued, may be accepted by a registrar of any district where the body is to be interred or otherwise finally disposed of, as a basis upon which to issue a local burial permit. In such event, the same shall be plainly entered on a copy of the record which such registrar shall transmit to the State Board of Health.

"(e) Stillborn children, or those dead at birth, shall be registered as births and also as deaths, and a certificate of both the birth and death shall be filed with the local registrar in the usual form and manner, the certificate of birth to contain in place of the name of the child, the word 'still-birth.' The medical certificate of the cause of death shall be signed by the attending physician, if any, and shall state the cause of death as 'stillborn,' with the cause of the stillbirth, if known, whether a premature birth, and if born prematurely, the period of uterogestation in months, if known; and a burial, or removal permit, in usual form shall be required. Midwives

shall not sign certificates for stillborn children, but such cases, and stillbirths occurring without attendance of either physician or midwife, shall be treated as deaths without medical attendance, as provided in sub-division (g) of this section.

"(f) The certificate of death shall contain the following items:

"(1) Place of death, including state and county, with city, village or township. If in a city, the ward, street and house number. If in a hospital, or other institution, the name of the same to be given instead of the street and house number. If in an industrial camp, the name of the same to be given.

"(2) Full name of deceased. If an unnamed child, the surname preceded by 'unnamed.'

"(3) Sex.

"(4) Color, or race—as white, black (negro or negro descent), Indian, Chinese, Japanese, or other.

"(5) Conjugal condition—as single, married, widowed or divorced.

"(6) Date of birth, including the year, month and day.

"(7) Age, in years, months and days.

"(8) Place of birth—state or foreign country.

"(9) Name of father.

"(10) Birthplace of father—state or foreign country.

"(11) Maiden name of mother.

"(12) Birthplace of mother—state or foreign country.

"(13) Occupation—The occupation to be reported of any person who had any remunerative employment, women as well as men.

"(14) Signature and address of informant.

"(15) Date of death, including the year, month and day.

"(16) Statement of medical attendant, time in attendance, fact and time of death, including the time last seen alive.

"(17) Cause of death, including the primary and immediate causes, and the sequences of the same, together with contributory causes or complications, if any, and the duration of each.

"(18) Signature and address of physician or official making the medical certificate.

"(19) Special information concerning deaths in hospitals and institutions, and of persons dying away from home, including the former or usual residence, length of time at place of death, and place where the disease was contracted.

"(20) Place of burial or removal.

"(21) Date of burial or removal.

"(22) Date when certificate was filed and registered, authenticated by the official signature of the local registrar.

"Items 1 to 3, inclusive, shall be authenticated

by, the signature of the informant, who may be any competent person acquainted with the facts.

"Items 15 to 17, inclusive, shall be authenticated by the signature of the physician.

"Items 20 to 21 shall be authenticated by the signature of the embalmer or undertaker.

"A burial or removal permit shall not be issued upon a certificate containing only a statement of symptoms of disease, or conditions resulting from disease, but any such certificate shall be returned to the physician for correction. The cause of the death must be carefully defined, and if from violence, its nature stated. When death occurs in a hospital or other institution, the physician shall furnish the information required under subhead 19.

"(g) When any person dies without medical attendance, it shall be the duty of the embalmer or undertaker to forthwith notify the local registrar of such death, and when so notified such registrar shall issue a burial permit, or refer the matter to the local health officer for immediate investigation and certification, and also if the circumstances of the case render it probable that the death was caused by violence, and not by casualty, shall refer the matter to the coroner. The embalmer or undertaker shall also obtain and file with such registrar, the certificate of death, and secure a burial or removal permit. He shall also obtain the personal and statistical particulars herein required, over the signature and address of his informant, and shall then present the certificate of death to the attending physician, if any, or to the health officer or coroner, as directed by the registrar, for the medical certificate of the cause of death and other particulars necessary to complete the record as herein required. He shall then state the date and place of burial, over his signature, and with his address, and present the completed certificate to such registrar within the time limit, if any, designated by the State Board of Health. The burial permit shall be delivered to the embalmer, and the embalmer shall deliver such permit to the sexton, or person in charge of the place of burial, before interring the body, and when shipped by any transportation company shall attach the transit permit to the box containing the corpse; said permit shall accompany the same to the point of destination, to be there delivered to the local registrar of the district in which such interment is made.

"(h) If the interment or other disposition of the body is to be made in the registration district in which the death occurred, the wording of the burial permit may be limited to a statement from the registrar, over his signature, that a satisfactory certificate of death has been filed with him as required by law, and permission is therefore granted to inter, or otherwise dispose of the body

of the deceased, stating the name, age, sex, cause of death, and other information as required by the State Board of Health. When the interment or other disposition of the body is to be made in a registration district other than that in which the death occurred, a complete copy of the certificate of death shall be attached to and made a part of the permit. No person shall carry, or accept for transportation, the body of any deceased person without the same being accompanied by a permit in accordance with the provisions hereof, except that in case the death occurred outside of the state and the body is accompanied by a certificate of death, burial, removal or transit permit issued in accordance with the law, or board of health regulations, in force where the death occurred, if any exist therein, such death certificate, burial or removal, or transit permit may be held to authorize the transportation or carriage of the body into or through the state.

"(i) No person in charge of any premises in which interments are to be made shall permit the interment of any body unless the same is accompanied by a burial, removal or transit permit, as herein provided. Such person shall indorse upon such permit, the date of the interment, over his signature, and shall return all permits so indorsed to the local registrar of his district within ten (10) days from the date of interment. Such person shall also keep a record of all interments made in the premises under his charge, stating the name of the deceased person, place of death, date of burial, the name and address of the embalmer, which record shall at all times be open to public inspection. Any person wilfully violating any provision of this paragraph shall be guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than twenty (20) dollars, nor more than one hundred (100) dollars, or be imprisoned in the county jail for not less than ten (10) days, nor more than ninety (90) days.

"(j) The certificate of birth shall contain the following items

"(1) Place of birth, including state and county, together with city, village or township. If in a city, the ward, street and house number. If in a hospital, or other institution, the name of the same to be given instead of the street and house number.

"(2) Full name of child.

"(3) Sex.

"(4) Color or race—as white, black (negro or negro descent), Indian, Chinese, Japanese or other.

"(5) Condition—as twins, illegitimate, etc.

"(6) Date of birth, including year, month and day.

- "(7) Full name of father, with age.
- "(8) Birthplace of father, state or foreign country.
- "(9) Occupation of father.
- "(10) Maiden name of mother, with age.
- "(11) Birthplace of mother, state or foreign country.
- "(12) Occupation of mother.
- "(13) Number of child of this mother and number of children of this mother now living.
- "(14) Signature and address of attending physician or midwife.
- "(15) Signature and address of informant.
- "(16) Signature and address of reporting official.
- "(17) Date when certificate was filed and registered.

"(k) No person shall wilfully alter any certificate of birth or death, or any copy of the same, after the same is filed in the office of the local registrar. Any person who shall violate any provision of this paragraph shall be guilty of forgery in second degree."

"Section 2141. Fees.—For obtaining and returning the information required concerning each birth and death, the local registrar or sub-registrar, shall receive twenty-five (25) cents from the county upon presentation of voucher for the amount due. On or before February first (1st) of each year, the secretary of the state board of health shall transmit to the clerk of the district court of each county, a record of all the returns received by him during the preceding year from the local registrars of such county, with his certificate showing the whole number of births and

deaths reported during such year by each local registrar. Said clerk shall thereupon file the same in his office, and shall issue to each local registrar or sub-registrar, a voucher showing the amount due him for the aforesaid services, as shown by the certificate of said secretary. For the above named services, said clerk shall receive from the county, ten (10) cents for each birth and death recorded. Provided, however, that in cities of over 100,000 inhabitants, the local registrar shall perform all such duties without any charge therefor, and in counties having a city of over 100,000 inhabitants, such district court clerk shall not issue any such voucher to the local registrar of such a city, nor shall said clerk receive any compensation for any of the duties herein required in connection with birth or death records in such a city."

Sec. 2. Any person who shall violate any of the provisions of this act, or shall refuse or neglect to perform any duties imposed upon him thereby, for the punishment of which no other provision is made herein, shall be guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than ten (10) dollars, nor more than one hundred (100) dollars, or imprisoned for a period not to exceed sixty (60) days. Fines collected for any violation of the provisions of the foregoing, shall be paid into the treasury of the county where the offense was committed, and there credited to the general revenue fund of said county.

Sec. 3. This act shall take effect and be in force from and after its passage.

Approved April 25, 1907.

NEW REGULATIONS OF THE MINNESOTA STATE BOARD OF HEALTH—1907

These regulations have received legal publication and therefore have the force of law.

Trachoma

81a. Persons afflicted with trachoma must be excluded from schools or close association with other individuals, unless under the constant care and strict supervision of a competent physician.

Disposal of Dead Animals

117a. No carcass of any dead animal shall be left unburied in the state of Minnesota, nor shall it be thrown into any stream, lake, pond, well, or other body of water therein.

Any such carcass shall be buried by the owner so that it will be covered by at least three feet of earth.

Burial shall be made within twenty-four (24) hours after death, and in all cases of death from

a communicable disease the body shall be thoroughly enveloped in quicklime.

At all municipal dumping grounds where carcasses are disposed of, provision must be made for their immediate burial.

In lieu of the foregoing the dead bodies of animals may be burned.

Sanitary Inspection

127. The health officer of each city and village in the state of Minnesota shall make a thorough sanitary inspection of his municipality in the month of May, and present a written report of such inspection, together with his recommendations, to the council on or before the first day of June of the year in which the inspection is made. The health officer shall send a copy of this report to the Minnesota State Board of Health before July 1st of the same year. Other

sanitary inspections shall be made during each year if deemed necessary.

128. Preceding the regular May sanitary inspection, the health officer of each city and village shall publish in a local paper, or by means of bills posted in two or more conspicuous places, an order for the citizens to thoroughly clean all yards, vaults or cesspools, also all sheds or barns containing manure, on or before a given date. If upon inspection this general order is found not to have been carried out, then like individual notices shall be served.

Regulations Relating to Car Sanitation

These are some of the rules which cannot be given the force of law because the Senate failed to pass House File 520, which provided in part for regulations governing "transporting persons for hire in railway and street cars and other public conveyances and the condition of railway stations and railway shops." They were formulated during the summer of 1906 and first acted upon by the Board, October, 1906.

On April 24th, 1907, the St. Paul Dispatch, referring to the failure of the legislature to pass the bill referred to above, says:

"Thanks to the Senate it will be possible to run a railroad train, an omnibus, or drive a hack without getting a license from the State Board of Health."

The same paper, in an editorial, refers to this bill as "vicious."

The people of the State can judge from these regulations whether the State Board of Health, in making regulations bearing upon sanitation, is apt to show a vicious tendency.

At a meeting of the State Board of Health, held April 30, 1907, action was taken to the effect that these rules (129 to 143 inclusive) relating to car and railway sanitation, be passed by the Board, and used for educational purposes.

129. No person shall spit upon the floor, furnishings or equipment of any railway coach, chair car, parlor car, sleeping or dining car, depot or depot platform, in the State of Minnesota.

The Minnesota State Board of Health will furnish, at the expense of the state, upon request, and each railway company operating in the State of Minnesota is hereby required to post and display in each passenger coach, a placard in form as follows:

SPITTING OR THROWING OF REFUSE ON THE FLOOR,
FURNISHINGS OR VESTIBULES OF THIS CAR
IS PROHIBITED BY LAW

The following notice must be posted in all station waiting rooms located in Minnesota:

SPITTING OR THROWING OF REFUSE ON THE FLOOR,

FURNISHINGS OR VESTIBULES OF CARS OPER-
ATED FROM THIS STATION IS PRO-
HIBITED BY LAW

The following notice must also be posted in all station waiting rooms located in Minnesota:

SPITTING OR THROWING OF REFUSE ON THE FLOOR

OR FURNISHINGS OF THIS ROOM IS PRO-

HIBITED BY LAW

The notices posted in station waiting rooms located in Minnesota must be signed by the Secretary and Executive Officer of the Minnesota State Board of Health.

130. The owners of all general waiting rooms and smoking rooms shall provide one or more spittoons for each of such rooms. All spittoons must be placed upon the floor. Water must be kept in all spittoons except those used in cars.

131. Spittoons must be placed in the offices used by railway officials and employees.

132. Should a passenger be found spitting upon the floor, his or her attention should be drawn to the regulation posted in the car prohibiting spitting. Should it be impossible for the passenger to refrain from spitting because of disease or other infirmity, the porter in charge of the car shall provide such passenger with a spittoon.

Each sleeping car operated in Minnesota shall be furnished with one (1) spittoon for each section or compartment. Each smoking compartment in day coaches, chair, parlor and sleeping cars, must be furnished with at least two (2) spittoons. Each smoking car shall be provided with at least six (6) spittoons. Each combination smoking car shall be provided with at least four (4) spittoons.

133. Spittoons, as directed in the preceding rules, must conform to the following requirements: They must be of such form as to meet with the approval of the Minnesota State Board of Health, and so constructed as to conceal their contents from view so far as possible, and permit of their being easily and quickly emptied and cleaned. They must be of such shape that it is easy to spit into them.

134. Spittoons must be cleaned at least once each day.

135. When a water-borne disease has developed in epidemic form in a municipality, water from such a place for car tanks shall not be used without the approval of the Minnesota State Board of Health. The drinking water and ice supply used in day coaches, chair, parlor, dining and sleeping cars, must contain no ingredient deleterious to health. In new passenger cars all receptacles for drinking water must be so constructed that they cannot be opened by any one except those having charge of same.

Nothing but ice and water shall be placed in the receptacles used for the storage of drinking water.

136. All day coaches must be thoroughly cleaned once each day or at the end of a trip. In no case shall such cleaning be less frequently performed than on every third day. There shall be no dry sweeping or dusting of cars while in service.

The thorough cleaning of day coaches must be carried out as follows:

The floors shall be cleaned with soap and water, to which may be added any other cleansing agent. After being cleaned, the floors shall be mopped with a one per cent solution of the official formaldehyde solution described in U. S. Pharmacopeia of 1900, or some other disinfectant approved by the Minnesota State Board of Health. The walls in the closets shall be cleaned by sweeping and wiping with a disinfecting solution. The hoppers and urinals shall be thoroughly cleaned and disinfected. The floors of the closets shall be thoroughly cleaned. After the above preliminary cleaning the hoppers and urinals and closet floors shall be mopped with a one to two per cent solution of said formaldehyde solution, or some other disinfectant approved by said State Board of Health.

The receptacles for drinking water shall be emptied and thoroughly cleaned as often as necessary.

137. A day coach in which a person affected with smallpox, scarlet fever or diphtheria, has been carried must be closed as soon as the passengers have left the car, and remain closed and unoccupied until the coach has been thoroughly disinfected with formaldehyde gas, using not less than ten (10) ounces of the said formaldehyde solution for each one thousand cubic feet of space to be disinfected. If the potassium-permanganate method is used, then there must be twenty (20) ounces of the said formaldehyde solution and sixteen (16) ounces of potassium permanganate used for each one thousand cubic feet of space to be disinfected. After a thorough disinfection of the car, it shall be cleaned as directed under Rule 8.

138. Upon arrival at cleaning terminals, sleeping cars shall be cleaned as follows:

The windows, doors and ventilators shall be opened, the upper berths let down, the seat bottoms and backs lifted out, the mattresses, blankets, pillows, curtains, etc., loosely arranged for airing. If the weather permits, the removable articles mentioned above shall be taken out of the car, dusted and aired in the open, and exposed to sunlight for a time. The rest of the cleaning of the car shall be carried out as directed for day coaches under Rule 8.

139. Sleeping cars shall be fumigated at least once every two months. Fumigation shall be carried out before the carpets have been removed or the cleaning of the car begun. Preparation for fumigation shall be as follows:

Close all outside doors, windows, deck sash and ventilators. Arrange one or more windows on each side of the car so that they can be opened from the outside to avoid the necessity of entering the car while the formaldehyde fumes are strong. Open all interior doors. Pull the seats forward and loosen the pillows in the pillow boxes. Open the upper berths and lay the head boards across the seats so that one corner will rest upon the seat arm. Lay the lower mattresses on the head boards with the middle arched upwards, the ends being pushed together. Raise the curtain poles and hang the curtains near the end by a single hook. Throw the blankets over the curtain poles, making as few folds or thicknesses of the blanket as possible. Arch the upper mattresses in the upper berths.

Fumigation with formaldehyde solution and potassium permanganate shall be carried out along the lines approved by the Minnesota State Board of Health. After the car has been fumigated it must remain closed for a period of at least three (3) hours, after which time the doors and windows shall be opened as soon as possible. On rainy or damp days the car need not be kept closed after fumigation for a longer period than one hour.

140. Porters shall not sleep in sleeping cars in Minnesota unless a special compartment in the sleeper and special bedding are provided for their use by the companies operating the same.

141. Porters shall not use the sleeping car bedding provided for passengers.

142. Parlor, buffet and dining cars shall be cleaned each day, or at the end of each trip, as directed for the cleaning of day coaches under Rule 8.

Food boxes, refrigerators, lockers, drawers and cupboards shall be thoroughly cleaned and treated with a one per cent solution of the aforesaid formaldehyde solution as often as necessary, and shall at all times be kept sweet and clean.

143. All toilet rooms, water closets, urinals and toilet appliances in stations shall be cleaned daily, and when vaults or surface receptacles are used in connection with closets in stations, such vaults or surface receptacles shall receive a daily treatment with fresh lime or other agent approved by the Minnesota State Board of Health. Toilet rooms and closets shall be made fly-proof by means of screens on windows or other outside openings.

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ESTABLISHED 1870

May the new graduate meet his greatest expectations! He will surely do so if he is a gentleman, studious in his habits, painstaking and gentle in his work, kindly toward his fellow practitioner,—one who can keep his knowledge within bounds and know the value of silence when criticism would be easy,—morally upright under all circumstances, and, last and not least, systematic and business-like in his dealings with all men, patients and creditors.

CEREBROSPINAL MENINGITIS

Judging from reports from various parts of the country, it is safe to assert that there is a larger number of cases of cerebrospinal meningitis than usual. Sections in Iowa, Nebraska, Minnesota, and in the Rocky Mountains record, in some instances, a few cases, and in other instances the disease has appeared in epidemic form. It seems rather singular that in the high altitudes of the Rocky Mountains cerebrospinal meningitis should appear.

It is expected that in the large cities with their varied populations, and particularly in their crowded and unsanitary districts, an epidemic might occur.

Several cases of meningitis, typical and clinical in its symptomatology, have been recorded in Minneapolis.

They have not been confined, however, to the crowded or flat-sections of the city. Isolated cases have been found where the hygienic surroundings are of the best. In one instance the disease ran a typical course, and cultures from the cerebrospinal fluid by lumbar puncture demonstrated the presence of the diplococcus intracellularis, together with the pneumococcus. In other cases only the pneumococcus was found.

The character of the individual cases, varying in degree, duration, and virulence, shows very clearly that the disease has been astir this season. It has been estimated that about twenty cases have been observed in the past two months in Minneapolis, but when one considers the cases that are not recognized and reported, the number is doubtless much larger.

The discussion as to the communicability of epidemic cerebrospinal meningitis is still active. The majority of physicians agree that the poison is not very vigorous and that ordinary precaution will prevent it from being carried about. On the other hand, there is a fixed belief in the probable communication from one patient to another, and to substantiate this theory two or more cases have been found in one household, but this does not confirm the theory of contagion, for both cases may have received the infection from the same source. Flixner of New York, in his articles in the *Journal of Experimental Medicine* for March, finds that the organism is not possessed of much vitality, that is, soon dies when suspended in salt solution, and is killed by a temperature just above zero. Freshly isolated strains of the diplococcus of meningitis are much more virulent than those under artificial cultivation. Some strains remain virulent for a few days, others for months. Notwithstanding the varied opinions advanced, the disease should be looked upon as communicable, and preventable

and patients and attendants should be treated accordingly.

The suspected case should be kept in a well aired room, as far away from noise and confusion as possible; the nasal secretions should be carefully guarded and burned; and the nasal cavities should be cleared by a mild antiseptic; such as a normal salt solution to which other salts, except calcium, may be added. The attendants should observe the same cleanliness, particularly of the nasal passages. The number of people in the room should be reduced to the minimum, and visitors excluded.

Unfortunately, there is no remedy for the disease, and the only known drugs which are in any measure useful are those which promote elimination, the free use of morphia to relieve pain, and the withdrawal of the cerebrospinal fluid by lumbar puncture, and the substitution of a salt solution for the fluid withdrawn. As a matter of fact, the resisting power of the patient and the use of morphia are all that we can depend upon. Some day a serum or a vaccine may be used advantageously, but so far the reports from Flixner's experiments do not promise anything encouraging. It is to be hoped that more painstaking investigation and records will be forthcoming and that the department of public health may have an opportunity to co-operate with the physicians. Epidemics should be reported in detail, and should be branded as communicable.

Reported recoveries under some one system of treatment are not to be looked on as infallible, as it is well known that in some localities the disease is mild and in others it is virulent. Many cases of recovery are recorded, but many of the recovered are crippled by paralyses, blindness, or deafness. The larger percentage die.

SCHOOL FOR DEFECTIVE VISION,
HEARING, AND SPEECH

In 1903 Miss Alice Burnham Fellows founded, and still conducts, in Milwaukee, Wis., a school for those having defective vision, hearing, and speech. The school has no endowment fund and relies for support entirely upon contributions and membership fees. It is the only institution of the kind in the United States that receives and cares for infants in arms and children up to eight years of age. Other children over eight years who are not able-bodied or those who require special care and treatment are admitted. The whole system is opposed to segregating the blind. As soon as the children are qualified to enter the graded school they are put with the seeing.

The purpose of the work is non-sectarian, and the spirit of independence is implanted in early childhood, in order that each pupil may become self-supporting.

The board of directors is composed of prominent men in Milwaukee, and there is a large staff of consulting physicians who look after the bodily welfare of the children. The school is evidently conducted on philanthropic principles by its very conscientious founder. Two children from Minneapolis are pupils in the school, both of whom came from very poor families who are unable to contribute anything for the maintenance of the children. The school is worthy in every way and should be generously supported. The courage of its founder and the earnest work of the field representative, Miss Jessie Starkweather, who is in Minneapolis as the accredited agent of the school, should be noted by every specialist who comes into contact with the defectives.

It should not be a difficult matter for the physician to drop a word of encouragement among his patients for a contribution to an enterprise of this kind.

The number of young children among all classes in society who need just the kind of attention Miss Fellows is able to give, is very large, yet there is always a hesitancy to conceal any defects from fear of attracting attention. The sooner treatment and training is inaugurated among young children or infants the greater the promise for improvement.

ONANISM

The editor of the JOURNAL-LANCET received a letter from a young man some weeks ago asking for advice as to the best method for breaking a bad habit that had been contracted by imitation. The young man felt as if he were going through a crisis and that he was not strong enough to withstand temptation.

There are many young men in this same predicament who need help from an educational standpoint. These are the boys who fall into the hands of the quacks and who are frightened into all sorts of errors and who submit to financial bleeding because they are afraid to confide in a reputable physician. There is no habit quite so bad as masturbation, on account of its demoralizing effects and the nastiness of methods. Plainly speaking, it is a filthy habit and the best and only way to break a bad habit is to stop it. The average boy sees, or thinks he sees, his brain giving way, his face betraying his obliquity, and that he is constantly under suspicion.

When a boy begins to masturbate he is either

doing it willingly and thereby losing his self-control, or he is congenitally unstable and cannot resist temptation without assistance. The literature on the subject is usually found in the religious press or in the suggestive advertisement of the charlatan. There are plenty of good medical and lay works on the subject of the sexual life than can be easily obtained through the family physician. Boys and girls should be taught early in life to keep their genital organs clean, physically and morally. They should be told plainly what their genitals are for, and should understand that abuses of all sorts are degrading and unnecessary. It is conceded by physicians that onanism is a common fault among the young, and the majority of boys soon discover that the practice is demoralizing, and, as a matter of manliness and pride, it is discontinued. A few, however, have not the moral courage to stop, and as a result of their introspection and fear they become depressed in body and mind. If they knew that a healthy sexual apparatus as it grows and matures, is accompanied by physiological explosions, emissions, etc., that are normal, there would be less depression and less masturbation. Unhappily, the boy does not always know this, and he often wanders in forbidden pathways until he is assisted by some one who understands the situation, on to solid ground.

A few, a very few onanists, need physical attention and drugs, the majority need forceful, plain speech that explains their errors and appeals to their pride. Occasionally, the fault lies with the physician who treats his patient with scorn or jeers instead of giving kindly advice and assistance. No physician is justified in advising an onanist to seek carnal companionship; rather let him endeavor to establish a better physical state and to teach the boy the value of self-control. The physical ills that arise from masturbation are nothing in comparison to the unhappiness and fear that are so unnecessary.

The proper advice to the young man is: "You have a bad habit; stop it. If you want to be a man assert your independence by showing yourself you can control your impulses, and the rapidity of the cure will drive away fear and depression. If you are in doubt, consult a medical man in whom you have confidence. This is a matter for the doctor and not the minister to settle."

SANITARY MATTERS

We have added a number of extra pages to this issue to make room for Dr. Bracken's comprehensive review of the work done, and left undone, by the legislature, in sanitary legislation, and also the laws passed by the legislature and

the regulations adopted by the State Board of Health. All these matters are, or should be, of interest to our readers. Dr. Bracken shows, incidentally at least, how difficult it is to get good laws, and he also shows that many good laws were passed, and they were obtained by the aid of himself and associates, backed by the medical profession.

Drs. P. M. Hall and J. Frank Corbett presented data in regard to meningitis, which was discussed by Drs. H. L. Staples and E. K. Green.

C. H. BRADLEY, M. D., Secretary.

REPORTS OF SOCIETIES

WOMAN'S MEDICAL CLUB

The Woman's Club of Minneapolis met in regular session Wednesday, May 15, at Dr. Baier's residence, 2946 Bloomington avenue.

The paper of the evening was by Dr. Mary P. Hopkins, one of the physicians on the staff of the State Hospital for the Insane at St. Peter. "Gynecology Among the Insane" was her subject, and it was ably presented. Statistics and experience covering several years furnished facts upon which to draw. Discussion was general.

FLORENCE C. BAIER, M. D., Secretary.

HENNEPIN COUNTY SOCIETY

A special meeting of the Hennepin County Medical Society was held in Dr. J. E. Moore's office at 4:30 p. m. May 17. The meeting was called to order by the president, who stated that the purpose of the call was to take suitable action in regard to the death of Dr. Charles Simpson, one of the members.

The chair appointed the following committees: Resolutions and memorial, Dr. R. J. Hill, chairman; Dr. Edwin Phillips, Dr. W. A. Jones. Committee on flowers, Dr. F. A. Knights, Dr. E. J. Brown.

A midmonthly meeting of the Society was held on May 20.

Dr. J. E. Moore, president, in the chair, and forty-five members present.

Dr. E. K. Green presented a case of spinal cord sclerosis with atrophy of the shoulder joints.

The scientific program was a symposium on general anesthesia. Dr. T. B. Hartzell read a paper on "Transitory General Anesthesia. Including Nitrous Oxide, Ethyl Chloride, and Somnoform." Dr. Cora B. Roberts read a paper on "Chloroform Versus Ether Anesthesia." The discussion was opened by Dr. J. F. Schefcik, and Drs. R. E. Farr, J. Frank Corbett, H. L. Ulrich, A. E. Benjamin, Margaret L. Nickerson, and J. E. Moore took part, which was closed by the essayist.

BOOK NOTICES

THE INTEGRATIVE ACTION OF THE NERVOUS SYSTEM. By C. S. Sherrington, D.Sc., M. D., Hon. LL.D., F. R. S., Holt Professor of Physiology in the University of Liverpool. With illustrations. Cloth, pp. 411. Price, \$3.50. New York: Charles Scribner's Sons, 1906.

This volume is made up of the second series of lectures delivered at Yale University on the Mrs. Hepsa Ely Silliman Memorial Lectures foundation. It contains an immense amount of information on physiologic subjects, and requires correspondingly careful reading. The author's central idea is to show how by its integrative action the nervous system, through its reflexes, is able to weld the different organs into an animal individual. The reflex mechanism is divided into three separate structures: an effector organ (gland or muscle cells), a conducting nervous path, and an initiating organ or receptor from which the reaction starts, the whole constituting a reflex arc. Through the combination and co-operation of the different reflexes the animal is built up.

The cause of knee-jerk is discussed, and the author evidently favors placing this in the class of true reflexes.

Several pages are devoted to a discussion of spinal shock.

Under the heading, "Reactions of the Motor Cortex," considerable attention is devoted to recent work on the motor area of the brain, including the very elaborate experiments of the author on the anthropoid apes. In referring to the motor area Sherrington says: "We have examined more than fifty hemispheres, but have never found the motor area extend indubitably to the free face of the post-central convolution." In all operations on the human cortex, he advises the use of electrodes, in order, by means of stimulation, to determine the exact area involved.

THE ABDOMINAL AND PELVIC BRAIN, WITH AUTOMATIC VISCERAL GANGLIA. By Byron Robinson, B. S., M. D., author of "Practical Intestinal Surgery," etc. Pp. 670. Hammond, Ind.: Frank S. Betz.

Dr. Robinson has assumed the task of presenting accepted truths in a new light, of drawing new inferences from such truths, and some-

times of presenting new truths which may not be accepted everywhere. He brings to this task a special equipment which must be taken note of in either accepting or rejecting his views. He has long been an indefatigable student and worker, and he has written a good deal, his writings being familiar to all medical journal readers and his books known to most medical men. He is a very extensive illustrator of his own writings, his pen and ink drawings being exceedingly well done as illustrations, but they are not always "pretty pictures" to attract the unthinking purchaser.

Dr. Robinson's definitions are exceedingly clear, and one is never in doubt as to what he thinks and what he wants to say, and so the reader at once agrees or disagrees with him. He deals in the main with the abdominal sympathetic nerves, but does not attempt to divorce this system from the cerebrospinal system. He maintains that there is a dominating influence of the abdominal sympathetic nerves upon the animal economy, and thus traces to their source causes of disease, or manifestations of disease, otherwise obscure.

He discusses in detail gastroduodenal dilatation.

The chapter on "Shock" is written by Dr. Lucy Waite, head surgeon of Mary Thompson Hospital for Women. It is a very broad view of a phenomenon too often confined to the profound impressions made upon the vasomotor centers. Its treatment and prevention is treated quite briefly, but very clearly.

Works like Dr. Robinson's will cause debate, but, on the whole, they will tend to clear up one's views, and especially to define them, and this is the first essential to correct knowledge, medical or any other kind.

NEWS ITEMS

The State Association meets in Duluth Aug. 20

Dr. E. W. Gag has moved from Wabasso to Marshall.

Dr. W. J. Austin, formerly of Minneapolis, has located in Belgrade.

Dr. Carlton Graves, of Aitkin, is in Chicago doing post-graduate work.

Dr. John L. Stephenson, of Ellendale, N. D., has decided to locate in Chicago.

Dr. David M. Arohson has moved from Towner, N. D., to Maxbass, N. D.

Dr. Guy D. Murphy, of New Rockford, N. D., has decided to locate in Minneapolis.

Dr. M. H. Leland, of Minneapolis, was married last week to Miss Josephine Holman.

Dr. Isaac W. Lynn, of Wales, N. D., has decided to locate in Colorado on account of poor health.

Dr. A. A. Stemsrud, of Dawson, is in Chicago for special study of the eye, ear, nose and throat.

Dr. Ralph C. Adams, a recent graduate of Jefferson (Philadelphia), has located at Bird Island.

Dr. M. E. Mellenthin, of Minneapolis, has charge of the practice of Dr. Prim, of, who is in the East.

The Fort Pierre (S. D.) Hospital Association has filed articles of incorporation with a capital of \$15,000.

Dr. M. W. Bockman, of Thief River Falls, has returned from Europe, where he has been doing special work.

Dr. C. P. Nelson, who has been in Chicago, engaged in special work, is now located in Minneapolis, at 3203 Lyndale avenue N.

Dr. Robert Turnbull, of Fosston, has returned from Chicago, where he has been doing post-graduate work in the Chicago Policlinic.

Dr. G. H. Gulbrandson, of Chicago, has located in Canton, S. D., taking the practice of Dr. J. P. Brastad, who has moved to Minneapolis.

The contract for a hospital building at Glen Ullin, N. D., has been let by Drs. Kearney and Benson. The hospital will be open to all physicians.

Dr. H. A. Peabody, of Webster, S. D., has been elected secretary of the South Dakota State Board of Health, of which he has been a member a number of years.

Dr. David Graham, of West Duluth, has been appointed by the governor a member of the Board of Visitors of State Institutions. He is the only physician on the Board.

Dr. F. W. Bullen, of Eveleth, has returned from the East, where he has been doing post-graduate work, and will locate in Hibbing and be connected with the Rood Hospital.

Dr. W. F. Braasch, assistant city physician of Minneapolis, has been called to Rochester as an assistant in the Mayo firm. He devotes himself to special work in internal medicine.

Drs. J. W. Stribling and Eleanor J. Hill have resigned as assistant physicians in the Jamestown (N. D.) State Hospital. Dr. Hill will come to Minneapolis and may locate here.

F. L. Norrin, of Roseau, has just returned from Kansas City General Hospital where he has been completing during the past three months a post-graduate course in operative surgery.

The government sanatorium at Black Hills, S. D., was opened last month. This sanatorium is a branch of the Soldiers' Home at Washington, D. C., and is for the care of old soldiers. It cost \$750,000.

Dr. Frank S. Howe, of Deadwood, S. D., has been appointed by the governor a member of the South Dakota State Board of Medical Examiners, to fill the vacancy caused by the removal of Dr. A. C. Allen.

The Minnesota Valley Medical Association held its semi-annual meeting at Mankato on May 7th. The attendance, especially from outside of Mankato, was large, and the papers were excellent, and most of them were short.

Dr. Herbert W. Jones, of Minneapolis, has returned from a nine months' visit to Europe, most of his time having been spent in Vienna. He gives an account on another page of some of the new work now being done in European clinics.

The Washington County Medical Society met on May 14, and had the pleasure of hearing a paper by Dr. John T. Rogers, of St. Paul, on "Fractures." Dr. Rogers has recently been to Europe, where he made a special study of the subject.

Dr. R. J. Sewall, of Cloquet, is building a hospital which will be completed this month. It will not be a large building, but it will be modern in every respect. Dr. Sewall's brother, who is now in the State University, will join him, after graduation, in hospital work.

Dr. F. F. Wesbrook, dean of the medical department of the State University, has been appointed chairman of the Research Committee, composed of one hundred members, of the American Association for the Advancement of Science to consider the subject of a national bureau of health.

Dr. Charles Simpson, of Minneapolis, died last month at the age of 64 years. He graduated from Columbia in 1871, and came directly to Minneapolis. He was the health commissioner of Minneapolis in 1875, was president of the Hennepin County Medical Society, and a member of the State Board of Medical Examiners.

At the annual meeting of the Winona County Medical Society last month, Dr. C. P. Robbins, of Winona, read a paper on "Physical Diagnosis," in which he gave an account of the latest work done in Germany in this line. Dr. Rob-

bins has recently returned from an eight months' stay in Berlin, and thus could give an account of the work as done to-day in the German clinics.

The following names are to be added to the Roster of the State Medical Association: Dr. W. H. Barr, Wells; Dr. J. A. Gates, Kenyon; Dr. A. E. Henslin, LeRoy; Dr. G. H. Luedtke, Fairmont; Dr. A. L. Hill, Monticello; Dr. J. H. Dorsey, Glencoe; Drs. C. H. Hegge, W. H. McKenna, and H. F. Pierson, Austin; Drs. G. F. Beachler, O. A. Olson, and C. W. Malchow, Minneapolis.

Through the generosity of Messrs. Alfred F., Charles C., and John S. Pillsbury, of Minneapolis, Dr. Thomas G. Lee has secured for the Department of Histology and Embryology, University of Minnesota, the Handapparatus, or working library, of the late Prof. William His, of Leipzig. This collection comprises over 8,400 monographs and separates contributed by over 2,500 different authors. This valuable addition to the library of the department makes it now the largest anatomical library in the northwest.

The county health officers of Minnesota will hold a meeting at the State University, Minneapolis, June 13th and 14th. These dates were selected in order to give those attending this meeting an opportunity to hear Gov. Johnson and U. S. Senator Beveridge, who speak on the evening of the 12th, having been invited in connection with the National Conference of Charities and Corrections, which holds meetings from the 12th to the 19th. The following subjects will be considered by the county health officers: (1) A uniform system of charges for the care and control of communicable diseases. (2) The payment of accounts in which the county has an interest. (3) Methods of bringing city, village and township health officers into line for the most efficient work. (4) The selection of medical health officers for townships. (5) The sanitary laws of the State Board of Health regulations. (6) School hygiene. (7) The efficiency of quarantine, and methods to be pursued. (8) Tuberculosis among human beings. (9) Rabies and the Pasteur-institute. (10) The smallpox problem. (11) Laboratory problems. (12) Pay for services rendered by county boards of health. (13) Subjects submitted for discussion through question box. (14) Villages without any legal health officer.

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THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

VOL. XXVII

JUNE 15, 1907

No. 12

ECLAMPSIA*

By A. J. McCANNEL, M. D.

MINOT, N. D.

In reading a paper upon the subject of eclampsia I do not hope to present anything new; however, as any general practitioner can see only a limited number of eclamptic cases, it does us all good to review, from time to time, the present status of our knowledge of the subject and the theories held in regard to it.

This disease has been called by Zweifel *the disease of theories*, and all I can hope to accomplish in this paper is to dig out from the mass of theories a few facts that are most generally accepted, and present them to you for your consideration.

Eclampsia is not really a disease in itself but a symptom, a part of the symptom complex of the toxemia of pregnancy, a condition occurring, to a greater or less degree, in a large percentage of all pregnant women; and a study of the etiology, pathology and treatment of one condition involves a study of the other. However, in the limited time at my disposal I shall confine myself particularly to the symptom rather than to the general condition.

DEFINITION

Eclampsia is defined by Dr. Moran as an acute symptom complex occurring during pregnancy, labor, or the puerperal state, but usually near labor, and characterized by tonic and clonic convulsions, loss of sensibility and consciousness, with or without elevation of temperature, and ending in coma or sleep.

*Read before the North Dakota State Medical Association, May 14 and 15, 1907.

FREQUENCY

It occurs about once in every 350 labors and is most frequent in the latter part of pregnancy, next during labor, and least frequent during the puerperium, the percentages being 54 per cent in pregnancy, 30 per cent in labor, and 16 per cent post-partum. It seldom occurs earlier than the sixth month of pregnancy. Out of 52 cases collected by Tarnier only one occurred in a woman pregnant five months, and the nearer we get to term the more frequent the cases. Puerperal eclampsia occurs usually within a few hours, or, at most, a few days after labor, although Simpson reports a case where it occurred eight weeks subsequent to delivery. It is more frequent at some times than at others. In Tarnier's clinic in Paris in 1872 there was one case to every 47 labors. In 1882 there was one case to every 730 labors; and in 1891 one case to 130 labors. About 70 to 80 per cent of the cases occur in primiparae, those of extreme age or extreme youth being especially liable. Twin pregnancies and hydramnios seem to predispose, and it is more frequent in those illegitimately pregnant. It is also more frequent in weather conditions which throw extra work on the kidneys by diminishing the work of the skin.

ETIOLOGY

Regarding its etiology there are a great many theories. De Lee, in the American Journal of Obstetrics, Vol. 57, No. 3, quotes some fifty or sixty authors on the subject with about as many theories, and makes this statement: "As a mat-

ter of fact we know practically nothing of its causation.

Those who have investigated the etiology of eclampsia have followed one of four principal lines, each of which has had its enthusiastic supporters. The first and most ancient of these theories sought to attribute the phenomena of eclampsia to reflexes originating in the uterus. This is no longer held, although it is well known that the nervous system is in a less stable condition during pregnancy than at other times.

Those who held what is sometimes called the anatomic theory claimed that eclampsia was due to the pressure of the enlarged uterus, and also to pathological changes in the different organs. This theory derived some support from the greater frequency of eclampsia in hydramnios and twin pregnancies and also in the cases of extremely young or extremely old primigravidae in whom the pelvic structures are most resistant; but the fact that the post-mortem findings are so inconstant disproves to a great extent the anatomic theory of the disease.

More recently attempts have been made to find a bacterial origin for the condition. Many investigators have found bacteria in the placenta of eclamptics, but others have been unable to confirm these findings.

This brings us to the fourth theory and the one now most generally held, which is the theory of auto-intoxication. This was advanced by Bouchard, in 1887. He was followed by Riviere, Chamberlent, Tarnier, Ludwig, Savor and others who held and sought to prove that this auto-intoxication was caused by the retention of some substance during pregnancy, and that, as a result of this retention, there was a lessened toxicity of the urine and an increased toxicity of the blood-serum of eclamptics. This theory, however, was disproved by Volhard, in 1897, and also by Van der Bergh, Forcheimer, Stewart, and Schumacher, who proved that the results of the injection of urine and blood-serum into animals were dependent upon so many factors and so variable as to be useless for scientific purposes. The two latter also showed that the morbid effects of the injection of urine depended upon the bacteria present, and not upon any organic poison found therein.

Auto-intoxication can come from three sources: the food, intestinal fermentation, and cell-metabolism. The constipation which so often accompanies pregnancy accounts in great part for the accumulation of the toxins of the food and of intestinal fermentation, so much so that some think constipation alone is sufficient cause of eclampsia. But it is also true that the normal destruction of the poisons within the body is interfered with. During pregnancy less

oxygen is absorbed, and less carbon dioxide is eliminated, showing that there is less oxidation going on than usual. This accounts for the frequent glycosuria and the increase of adipose tissue in pregnant women, while the fatty degeneration produced in the liver interferes with its normal function of storing up glycogen and also with its ability to so change the products of metabolism that they may be eliminated by the other organs. In addition to the defective working of the liver, the lessened toxicity of the urine and the frequency of albuminuria would tend to show decreased activity of the kidneys. This had long been considered the one cause of eclampsia, but in the light of recent investigations we must admit that the kidneys occupy a very subordinate place to the liver in its production. Then, too, the spleen, thyroid, and suprarenal glands have their toxilytic functions lessened and allow the piling up of those toxins in such shape as to over-tax the lessened renal, intestinal, biliary, cutaneous, and pulmonary elimination.

Quite a number have held to a fetal origin for eclampsia, but the testimony of students along this line is conflicting, and further investigation is necessary. Williams, in his work on "Obstetrics," says: "In summing up the etiology of eclampsia, it appears that the evidence thus far adduced in support of the auto-intoxication theory, though not conclusive, is sufficiently suggestive to warrant its tentative acceptance, at least until some better explanation is forthcoming. I believe that it is probable that further studies of the metabolism of normal pregnancy will eventually afford us definite information concerning its causation."

PATHOLOGY

The pathology of this condition is also very obscure. For a long while it was believed that the renal changes present in 90 to 95 per cent of the cases were the distinctive pathological lesions. There are usually the lesions of an acute nephritis with marked necrosis of the renal epithelium. Occasionally we find the lesions of a chronic nephritis. In spite of these pathological changes the function of the kidneys is not always interfered with. Sometimes the ureters are enlarged and dilated. It is in the liver, however, that the most characteristic lesions are found. The liver is more yellow in color than usual, which is due to commencing fatty degeneration. There are small hemorrhages beneath the capsule and in the liver substance and also areas of necrosis around the smaller portal spaces. These necrotic areas can usually be seen with the naked eye, giving the liver a mottled appearance on section. They are supposed to follow thrombotic processes in the smaller vessels. Schmorl

considered that their presence justified the diagnosis of eclampsia without further knowledge of the history of the case. The spleen is enlarged, congested, and soft, and has hemorrhagic spots and areas of necrosis similar to those in the liver. The pancreas is similarly affected. The brain is sometimes anemic and sometimes hyperemic, and also contains hemorrhagic spots and thrombi in various parts. The myocardium is often the site of degenerative changes which Schmorl regards as due to the prolonged inhalation of chloroform for the relief of the convulsions. Lesions have been found in the liver and kidneys of the fetus resembling those in the mother. The lessened toxicity of the urine and the increased toxicity of the blood are more easily demonstrated during life than after death. The varying and inconstant character of the pathological findings would go to prove that they are not the cause of the condition, but are rather the result of the circulation in the blood of the poison, which seems to be the real cause of eclampsia. As to the nature of this poison, opinions are just as varied. Veit believes it to be a poison produced in the blood as the result of the deportation of placental cells. Ascoli holds that the placental cells in the circulation stimulate the production of a new substance (syncytiolysin) which destroys these cells and their poisons. But when there is an overproduction of syncytiolysin eclampsia is the result. Weichard's theory is that when there is an underproduction of this syncytiolysin the placental cells and their toxins produce eclampsia. Zweifel maintains that lacticaciduria, which he demonstrated in every one of seventeen autopsies, results from the imperfect oxidation of meats and causes eclampsia.

CLINICAL HISTORY

Sometimes eclamptic attacks occur without any prodromal symptoms. This sudden onset is likely to be in cases occurring in labor and post-partum rather than in those occurring early in pregnancy. The premonitory symptoms, when present, are those of general toxemia, which are salivation, disorders of digestion, headache, enfeebled memory, and intellectual apathy, vomiting, disorders of vision, insomnia, nervous agitation, malaise, vertigo, deficient excretion of urine and of urea, albuminuria accompanied by edema of the lower extremities and sometimes of the face and hands. Arterial tension is usually increased; epigastric pain is a common and very important symptom, and when well marked and associated with the other symptoms of toxemia De Lee considers it sufficient indication for the immediate termination of pregnancy. These symptoms under proper treat-

ment may entirely clear up, and pregnancy proceed without further trouble. In other cases this pre-eclamptic state may last some hours or days, and then pass into the stage of invasion.

In this stage there is convulsive twitching of the eyelids; the face is at first pale and later dark in color; the pupils contract at first and are then widely dilated; there is a total insensibility to light throughout the attack; there is convulsive twitching of the muscles about the angle of the nose and about the mouth; the mouth is contracted and drawn to one side, and the head is turned from side to side and finally becomes immovable. This period of invasion lasts from thirty seconds to one minute.

This is followed immediately by a period of tonic convulsions lasting fifteen to twenty seconds. The muscular contractions become generalized; opisthotonos is usually present; breathing ceases on account of the spasmodic contraction of the diaphragm; the face is dark; the arms are extended and rigid; the hands clenched with the thumbs in the palms; the tongue protrudes and may be bitten; the lower limbs may be extended or the knees drawn up to the abdomen.

In the period of clonic convulsions, which follows directly after the period of tonic convulsions, breathing is irregular and noisy; there are a number of short, rhythmic, general convulsions; the jaws open and close rapidly; the tongue may be bitten; the eyeballs roll; the spasms may be severe enough to roll the body from side to side although its position in the bed is not usually changed. This stage lasts from three to five minutes and passes off gradually, the patient soon passing into coma or sleep.

In the milder varieties only one convulsion may occur, although there are usually more than one, or the patient may recover consciousness between the attacks, while in the more severe cases one convulsion may follow another without any intervening period of consciousness, and there may even be overlapping convulsions, as in the status epilepticus. The temperature is generally elevated; the urine is scanty, dark, often bloody, and usually contains albumin; there is marked diminution of urea; the microscope shows the presence of mucus, hyaline casts, leucocytes, and erythrocytes; jaundice appears in some cases and is of grave prognostic significance.

DIAGNOSIS

The diagnosis of eclampsia is usually easy, especially when the patient has been under observation for some time. Epilepsy and cerebral disease are the only other conditions in which convulsions occur with total loss of consciousness. The history of previous attacks, the ab-

sence of albumin from the urine, the presence of an aura, the single seizure—all would indicate epilepsy. Then, too, epilepsy is rare in pregnant women, and epileptic women are usually sterile.

In cerebral hemorrhage there is absence of albuminuria; the temperature is lowered at first, and there is hemiplegia, and no history of preceding convulsions.

In the convulsions of meningitis, fever has existed previously.

In hysteria there is no loss of consciousness; no albuminuria; the urine is large in amount and pale; the tongue is not bitten; and there is usually a history of previous attacks.

Convulsions due to lead-poisoning may be distinguished by the history of the case, the blue line on the gums, and the paralyses.

A careful examination of the urine will usually make the diagnosis clear, for albumin will be found present during the attack in practically every case even if it is absent before the attack. Urea is also markedly diminished and the urine of every pregnant woman should be examined repeatedly for albumin, and especially for the amount of urea. This is the more important test of the two, as a marked decrease in the elimination of urea may give warning of the coming of a very severe and even fatal case of eclampsia when the urine is perfectly free from albumin.

PROGNOSIS

The prognosis in eclampsia is always serious. From 25 to 35 per cent of the mothers and 35 to 50 per cent of the children perish. The earlier in pregnancy the condition occurs the more grave the prognosis to both mother and child. In an individual case the prognosis depends on the number and severity of the convulsions; the amount of albumin and of urea, especially the latter; the early death or delivery of the child, and the early institution of treatment. A full and firm pulse between the attacks is a favorable prognostic symptom, while a weak, rapid, and thready pulse with a high temperature usually indicates a fatal ending. Death may occur after a single seizure, while Rosenstein reports one case of recovery after eighty-three convulsions. However, when ten or more fits occur the prognosis is grave.

The causes of death in the mother are exhaustion, apoplexy, asphyxia, pulmonary or cerebral edema, cerebral congestion, paralysis of the heart, and possibly a simple hyper-intoxication of the blood and nervous system. In the child the causes of death are the mother's convulsions and the pressure caused by them, asphyxia from compression or edema of the placenta or an ex-

cessive amount of carbon dioxide in the blood, and poisoning from the toxic material in the maternal circulation.

TREATMENT

The most important part of the treatment is prophylactic, and on this account a careful lookout should be kept for the symptoms of toxemia. The urine should be examined at least bi-weekly for albumin and urea. We should not depend alone on the test for albumin, as in from ten to fifteen per cent of the cases albumin is entirely absent prior to the attack. If the urine has a specific gravity of 1016 to 1020, urea above one and one-half per cent, and a total excretion of forty to fifty ounces, there is little danger of eclampsia.

When, however, symptoms of toxemia occur there are two distinct indications for treatment: First, to prevent the increase of toxins in the body; and, second, to eliminate those already present. The first indication is best met by prohibiting all foods containing toxic substances, as meats, sauces, spices, cheese, etc. This, with regulation of the bowels, is usually sufficient in mild cases, but when the symptoms are severe the treatment must be more vigorous and should consist of an abundant supply of fresh air and water, free purgation, hot baths, an absolute milk diet, and rest in bed. As a purgative calomel, followed by the salines, will stimulate both liver and intestines. Diaphoresis should be stimulated by hot baths or packs. Iron in the form of Basham's mixture should be given. If in spite of the above measures the amount of urine and the excretion of urea are not increased and the other symptoms increase in gravity we must consider the emptying of the uterus, which should be done with as little delay as possible.

When once a convulsion has occurred we should attempt to control the convulsions, eliminate the toxins, and evacuate the uterus. To control the convulsions no agent has met with more success or is safer than chloroform if administered in small amounts and not too long continued. Its action on the liver and kidneys when given in large amounts is decidedly bad, and at best its action is only temporary; however, its quickness of action in overcoming the spasms will commend it as the first thought in eclampsia. It is more effective when given promptly at the beginning of the attack and when given in this way will practically abort many of the attacks. Heart disease is not a contra-indication to its use.

Next to chloroform chloral hydrate, morphine hypodermically, and veratrum viride are the drugs most generally commended.

Chloral hydrate is given in from fifteen to

twenty grain doses during the prodromal stage, alone or in combination with sodium bromide. During the attack it is associated with chloroform or morphine, and given in from thirty to forty grain doses in an enema containing a half pint of milk and one egg. Three drams of chloral may be given in the twenty-four hours if necessary.

In regard to the use of *veratrum viride* there has been a good deal of conflict of opinion. Some condemn it entirely while others claim that in cases with full, bounding pulse, suffused face and danger of cerebral apoplexy, the fluid extract should be given hypodermically every hour in doses of from ten to fifteen minims until the pulse-rate has been reduced to about sixty.

Morphine may be given alone or combined with chloral hydrate or *veratrum viride*. It may be given to bring the convulsions under control, and then followed by chloral to prevent a recurrence. Edgar says he has abandoned the use of morphine, as it seems to prolong the post-eclamptic stupor and increases the tendency to death during coma by interfering with the eliminative processes. Lyle gives as the advantages of morphine over any other treatment:

First, it controls the convulsions by allaying the irritability of the cerebrospinal system.

Second, it prevents excess of waste products being drawn into the blood.

Third, it does not weaken the patient.

Fourth, it does not injure the child.

Fifth, it has no effect on the kidneys.

Sixth, when the patient is under its influence labor often commences and quickly terminates without causing more convulsions.

In giving morphine one-half grain should be given at the beginning of the attack. If fits recur one-quarter grain should be given each half hour for two doses and then every two to four hours.

To eliminate the toxins the treatment already recommended for the pre-eclamptic stage should be carried out. Purgation by means of croton oil and repeated high enemata of a concentrated solution of magnesium sulphate should be begun at once. Cupping over the kidneys followed by hot fomentations and nitroglycerine hypodermically will increase diuresis. The hot-air bath or hot pack may be used to produce diaphoresis. An ice-bag should be kept to the head, and the pulse watched during this bath or pack. Pilocarpine should never be used during this stage for fear of causing pulmonary edema. In sthenic cases eight or ten ounces of blood may be removed, and an equal amount of normal salt solution returned to the circulation by venous injection, by hypodermoclysis or by high rectal enema. Many cases will need stimulation by alcohol or strychnine,

especially in post-partum cases where there is danger of collapse.

We now come to the most important part of the treatment, the emptying of the uterus. On this point there is still much discussion among obstetricians. Almost all agree that the termination of the pregnancy is the best thing that can happen in a case, but as to whether there should be active interference to bring this about, and what this interference should be, is still a disputed point.

Charpentier and Winckel advise waiting until the os is fully dilated before interfering, but this increases the danger to the mother and greatly lessens the chances of the child. *Statistics* show that the danger to the mother is practically past in 90 per cent of the cases as soon as the uterus is emptied, provided this is done early. Early delivery offers practically the only hope of saving the child. In view of these facts it seems that as soon as the first convulsion has occurred the uterus should be emptied under deep anesthesia by a method which is rapid and at the same time is accompanied by as little injury to the mother as possible. Fortunately, when eclampsia occurs during pregnancy it usually excites uterine contractions and brings on labor so that manual dilatation of the cervix and rapid extraction of the child are generally easily accomplished. Great care should, however, be exercised in these cases to guard against rupture of the uterus during rapid manual dilatation, and no attempt should be made to extract the child before dilatation is complete on account of the danger to both mother and child. When, however, the internal os has not disappeared or the whole cervical canal is hard and resistant and time is a matter of great importance, as it is in many of these cases, some quicker method is necessary. In such cases Cæsarean section has been tried, but the mortality has been very high, and it is little used. Multiple incisions of the cervix are also recommended. Edgar advises making four incisions from the external os to the uterovaginal junction. It is in just such cases as this that vaginal Cæsarean section seems to be indicated, and it would seem to me to be the operation best suited for cases where manual dilatation does not meet all the indications.

When the child is born the placenta should be delivered at once.

To sum up the treatment of eclampsia: I would repeat that the best way to treat the condition is to prevent it if possible, and here, as elsewhere, "eternal vigilance is the price of liberty." When the condition does occur do not expect one line of treatment to answer in every case, and do not overwhelm your patients with

drugs, for all treatment of eclampsia is depressing and over-treatment may be worse than none at all. Until the etiology and pathology of eclampsia are definitely settled no absolutely rational line of treatment can be laid down, but in the state of our present knowledge the three indications in treatment are: To control convul-

sions; to eliminate the toxins; and to empty the uterus at once with as little danger to the mother and child as possible.

Last of all, the eclamptic patient is especially liable to septic infection, and all operations should be carried out in the most rigidly aseptic manner.

"LA DIETE HYDRIQUE" IN THE TREATMENT OF GASTRO-INTESTINAL DISEASES*

BY RICHARD OLDING BEARD, M. D.

Professor of Physiology, University of Minnesota

MINNEAPOLIS

That a physiological truth is commonplace is not uncommonly an occasion of its neglect, and yet, beneath its ordinary unquestioning acceptance, is often covered up a complexity of relationship and a depth of significance of which the casual student is unaware. Few of us, asked the reason why respiration is increased, even to the point of dyspnea, by severe exercise, could cite the physiologic cause.

Similarly, the far larger question of the function of water in the animal organism seldom occurs to us. An agent which, in the free form, represents two-thirds, and, both free and chemically combined, a still larger proportion of the body by weight; which enters, by 22 per cent, into the composition of bone, by 76 per cent into the composition of muscular tissue, by 78 per cent into that of blood, and by 73 per cent into that of nerve tissue, is not only physiologically, but is, usually, both dietetically and therapeutically, disregarded.

The recognized physiologic facts that, while the volume of fluid in circulation may be doubled, without increased output, the loss, by intestinal flux, of from five to ten per cent of water, over and above the normal output, is exhaustive and proves readily fatal in early life; that the immediate danger of hemorrhage is in the mere diminution of the body-fluids; that the functional activity of all tissue-cells depends upon their semifluidity and may be suspended by mere evaporation; that the cell metabolism of the blood suffers from undue concentration of the plasma, should have inspired, it would seem, both the physiologic chemist and the clinician to a larger consideration of the relation of water in the human body.

The subject is usually passed over with a recognition of the more ordinary or apparent

uses of water, as a solvent, as a circulating medium and as an agent of osmosis; in a word, with an appreciation, merely, of its physical functions. Its more essentially physiologic offices in which it serves as a diluent, both of the tissue metabolites and of bacterial toxins; as a flush, by means of which blood cells are put into more active circulation, and by which nutritive interchange, both on its constructive and eliminative sides, is favored; and as an agent and stimulator of metabolism, in general, have been subjects of very inadequate recognition or research.

Finally, the very important part which water plays in promoting the operation and maintaining the integrity of the food passages, and, therefore, the important place it may fill in the treatment of gastro-intestinal disorders, have been very insufficiently considered. It is to this special field of its relationship that the writer invites particular attention.

A reminder of a few physiologic observations, upon the relations of water in the alimentary canal, may not be out of place, as affording a basis for this discussion.

1. The water of the alimentary canal includes the water-content of the food-stuffs and the water of secretion, as well as the water ingested as a beverage.

2. The absorption of water from the gastro-intestinal tract is limited. Its absorption is regulated, not merely by physical conditions of pressure and volume, determining filtration; not merely by the pressure of physiologic salines, which undoubtedly serve to promote absorption; but by the principle of physiologic selection, to which Bunge refers as "that mysterious power," possessed by tissue-cells, in general, and by epithelial cells, in particular, which may be best characterized as the property of intrinsic choice, determining alike the quality and quantity of the metabolic materials selected. In this

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class of metabolic materials, water unquestionably belongs.

3. Water, within the limits of absorption, increases, primarily, the volume of the body fluids. Such an increase serves the important purpose, at times, of immediate dilution. It does not necessarily induce an enlarged output of water unless the amount absorbed within a brief period is large.

4. Water is not usually absorbed from the stomach. Such absorption, medical belief in which has been commonly held, has been disproved by von Mering. Water passes rapidly from a stomach, empty of food, through the pylorus. It is, in fact, a stimulus to pyloric outflow.

5. The absorption of water from the intestinal tract is slow. It is only partial in the small bowel. Water is the only material of absorption which is actively taken up by the large bowel. The longer the intestinal debris remains in the bowel, the more complete is the absorption of water. Normally, it still goes on in the sigmoid flexure. The contents of the bowel remain essentially fluid until this point is reached.

6. Water is a stimulator of peristalsis. In excess, used during digestion, it hurries material unduly through the tract. Deficient, it tends, by its absence, to induce constipation.

7. Water, in excess of the possibilities of absorption, remains in the stomach or bowels—seldom in the former, commonly in the latter, and often for a long time.

From these physiologic facts, certain practical hygienic conclusions may be drawn:

Excess of fluid, in the stomach, during digestion, unduly dilutes the gastric juice and determines the premature expulsion of food.

Excess of fluid in the intestine, increasing peristalsis, hurries food materials through the tract, often limiting digestion and absorption and promoting too frequent intestinal discharges.

These are the common results of over-frequent feeding and over-dilution of food in infant life, as the mass of undigested and unabsorbed material, contained in the feces, too often testifies. The infant who starves on a full stomach is not uncommon. At the same time, the failure to provide such infants with water, at other times than at periods of ingestion, compels them to appear perpetually hungry in order to get anything to drink and accounts for the apparent demand for an excessive quantity of food.

Water, in excess, acts as a flush in the alimentary canal—a fact to which we shall have occasion to recur.

The administration of water, after digestion has been completed, assists in the expulsion of digested food and tends to the removal of un-

duly retained residues of food. It may thus serve the purpose of lavage and, very usefully, if employed immediately preceding a meal. Practical extremes of temperature in the water so used are productive of the best results. In cases of gastric dyspepsia of infancy, it is common to discover such over-long retained residues of food and in a condition to provoke vomiting.

Water may be employed, usefully, in excess of the possibilities of absorption, as a stimulator of defective intestinal peristalsis, as a flush to the upper bowel, and as a means of maintaining the moisture of the fecal contents of the large bowel. It should be used for this purpose after several hours of fasting, or when digestion is assuredly, or presumably, completed. So employed, it is a remedy for constipation par excellence. It is very frequently true that constipation is caused or accompanied by a deficiency of water-diet and often by a habit of actual repugnance to water, which has to be overcome. The result of this deficiency is the undue extraction of water from the feces.

In such cases, the tissues, too, are often deficient in water, and under a prescribed water-diet the seeming failure to affect the constipation is incident to an excessively large absorption of old fecal material, which is susceptible for a time, so that the quantity required to serve as an intestinal flush is often astonishingly large. It is equally remarkable to note the accumulation of old fecal material which is susceptible of removal by such means, and the long period of its retention, which is evidenced by the degree of bile pigmentation it exhibits. It is suggestive to note the speedy relief of the indications of intestinal toxemia, of long standing, which follows such a thorough house-cleaning.

But it is not alone the hygienic, but the therapeutic, relations of water, in a larger field of gastro-intestinal disorders, to which the writer wishes to direct attention.

The bibliography of this question and of closely related topics, is not extensive.

In 1874, Luton of Rheims was the first, so far as the writer can discover, to advocate the therapeutic use of "la diete hydrique" in the treatment of grave enterites of adults. His suggestion was, in the main, disregarded.

In 1893, his son, Luton, Jr., employed the water diet in the Hospital for Children's Diseases at Rheims.

In 1895, Pernice of Palermo produced a significant thesis bearing upon the histologic alterations of the nervous system induced in animals deprived of water, which was suggestive of the results of the rapid loss of water, which the tissues undergo in cholera Asiatica and cholera infantum.

In 1896, Remy of Nancy reported excellent results from the use of a water-diet in the treatment of the cholera scourge of infancy.

The French dispute with the Germans the priority of proposing "la diete hydrique." In 1898, Dennig published a paper upon "The Significance of Water Supply in the Promotion of Absorption and Nutrition."

In 1904, Barber published an interesting essay entitled "Inanition Aqueuse," associating the topic with that of the inanition of mineral loss or deficiency.

To Marfan medical literature is indebted for a more extensive discussion of the influence of the water-diet in gastro-intestinal disorders, especially in infancy, than has hitherto appeared. The writer ventures to quote, *in extenso*, from the original treatise by this author under date of 1904. He refers to the employment of the method first, in the gastric dyspepsia of the breast-fed child, in the following words:

"In that form of dyspepsia of nursing infants, characterized by the predominance of gastric phenomena, * * * 'la diete hydrique' is the proper thing. Before employing it, in some cases it is well, for the suppression of the vomiting, to make a lavage of the stomach, but the success of this practice is not constant. By 'la diete hydrique' the vomiting disappears ordinarily in a few hours. One prescribes the abandonment of all food and the employment of boiled water for 18 to 24 hours' time. If vomiting recurs upon the restoration of food-supply, it is again suspended and a return to the boiled water had for from 6 to 10 hours. 'La diete hydrique' is the best treatment of vomiting of gastric origin of the breast-fed."

Again, he makes more substantial reference to the subject in the treatment of cholera infantum:

"As soon," he says, "as one has established a diagnosis of cholera infantum one must immediately suppress all feeding and all medicine, and give nothing but boiled water. As it is in cholera that the water diet has been applied systematically, and as it is in this affection that its effects are most remarkable, we have studied it in every detail.

"It consists in withdrawing all food and in ingesting nothing but pure water. As a safe rule to follow, one must give sterilized water; in practice, an ebullition of a few minutes furnishes a water sufficiently pure. * * * Certain physicians prefer giving, in place of the boiled water, a natural mineral water; but it is not always handy and the boiled water fulfills perfectly the end sought for."

He refers to the common fear of starvation in young infants, their ready endurance of the absence of food and the advisability of giving

something more than the equivalent of the customary food quantity in water. He recommends the duration of the treatment from 12 to 48 hours according to conditions.

Again he says, "The effects of 'la diete hydrique' in the gastro-enteritis of infancy, especially in the grave forms, have been remarkable and they are easy to explain."

"Above all, the water-diet arrests gastro-intestinal fermentation and putrefaction, through the suppression of all food for the micro-organisms, which have invaded the digestive tube.

"More than this, it gives rest to the gastro-intestinal mucosa, which is not irritated, as it is in all such cases, by the use of stimulants and antiseptics. The digestive disturbances improve rapidly, the vomiting ceases at once, the intestinal discharges become less numerous and less fluid. The water diet clears the tongue very quickly; it obviates the dehydration of the tissues, which is always very marked; it maintains an active diuresis, so necessary for the elimination of the toxins. Lastly, following the establishment of this diet, the child, who has been agitated and suffering, sinks into a calm and profound sleep."

"We have observed a series of remarkable successes, thanks to this water-diet. One knows too well the death-rate of cholera infantum for us to consider it merely a serious ailment. When one intervenes in extreme instances, when one realizes the poor chance of recovery for these cases which have exhausted the resources of medical art, it is well to know that many of them have been saved by this treatment."

It is remarkable that so little reference to this subject has been made in English and German texts. Rotch, it is true, advocates the ingestion of ice-cold water, temporarily, in infantile vomiting. He suggests lavage and rectal washing in cholera infantum and gastro-enteritis. Koplik advises the use of the Cantani salt solution (three parts NaCO_3 , + four parts NaCl to 1000 c. c. of water) for rectal or colon lavage, in order to promote water absorption.

He refers to hypodermoclysis as a method of supplying a deficiency of water, only to condemn it, upon the danger—a danger certainly easily avoided—of infection.

The writer, for a period of twenty years, has employed the water-diet, accompanying it, temporarily, with the complete suppression of all other feeding, in the treatment of acute and sub-acute gastro-intestinal diseases of infancy, and with remarkably good results. In colitis and enterocolitis, he has found the introduction of physiologic saline solutions, by colon irrigation, not only successful in the removal of putrefactive debris from the large bowel, but in the reflex stimulation of peristalsis in the small intestine,

while it has served its most useful purpose in securing the absorption of water for the supply of the over-drained tissues.

In cases of cholera infantum, *in extremis*, he has noted signal benefit from the hypodermoclysis of sterilized saline solutions in small, slowly introduced, but repeated, quantities.

He has found that "la diete hydrique" fulfills the indications for the immediate relief of water-

starvation in the tissues, for the dilution and elimination of toxins, for the physiologic rest of the disabled food-passages, and for the drainage, by efficient flushing, both by mouth and by colon, of the products of bacterial invasion.

Finally, he has observed some signal benefits in the addition of the water-diet to a graduated starvation treatment of subacute appendicitis. Under its active employment, in these cases, the appearance of a hunger-stool is notably early.

SOME OBSERVATIONS UPON THE TREATMENT OF RETRODISPLACEMENT AND PROLAPSE OF THE UTERUS, WITH ESPECIAL REFERENCE TO THE UTEROSACRAL LIGAMENTS*

BY A. W. ABBOTT, M. D.

MINNEAPOLIS

In certain cases of retrodisplacement of the uterus, and in all cases of prolapse of the uterus, the uterosacral ligaments are much elongated. After the round ligaments have been shortened for retroflexion by any of the usual methods, although the fundus may remain in its normal position, the cervix sometimes swings forward, and, in a small percentage of cases, may even protrude at the vulva, thus showing that the uterosacral ligaments lack or have lost their resilience, or have been unduly stretched. This may occur in women who have not borne children, as I have personally observed. In prolapse of the uterus, it has been a pretty general experience that after the cervix has been amputated, and plastic operations made upon the anterior and posterior vaginal walls and perineum, there is still a tendency to prolapse, which shows itself usually in a few months. The results of operations in this class of cases of retrodisplacement and prolapse have usually not been satisfactory. The reason for this is evidently that the cervix is not held back, so that the uterus lies nearly parallel with the vagina, as it should. Some years ago the suggestion was made that in addition to the usual operations a better result could be obtained by shortening the uterosacral ligaments. After a considerable experience in applying this principle, I believe it to be correct and effective. The anatomy of the uterosacral ligaments is probably less understood than any other of the uterine supports. They are not, by any means, as distinct as the round ligaments,

and yet in the majority of cases, under proper conditions, can be seen as distinct anatomical entities. They vary much in thickness and strength in different individuals, and in some instances in the same individual. They are best seen in the living subject, after emptying the pelvis by the Trendelenberg position, by drawing up the uterus so as to put them on a stretch. They will then be seen as cords whiter than the adjacent broad ligament, extending from a little below the region of the internal os backward along the broad ligament to each side of the rectum, to be incorporated in the peritoneum and connective tissue of the posterior wall of the pelvis. Sometimes they are seen to better advantage by pressing upon the uterus between their points of attachment to that organ, and so forcing the neck of the uterus towards the pelvic outlet. If the rectum is pushed at the same time to the side opposite to the ligament sought it will then stand out very distinctly. Histologically, these ligaments consist of a fold of the peritoneum covering some elastic and unstriped muscular tissue.

If one of the uterosacral ligaments is grasped by two artery forceps a short distance apart and then folded backward, it will be seen that the uterus is drawn backward twice that distance, there being two folds of the same length carried backward.

The technic of shortening the uterosacral ligaments through an abdominal incision is as follows: Any necessary vaginal work having been completed, the abdomen is freely opened, the round ligaments are shortened, and whatever

*Read before the Minnesota Academy of Medicine, February 6, 1907.

is necessary for the repair or removal of the adnexæ is done. The patient being in the Trendelenberg position, the uterus is grasped either by forceps or by the assistant, with gauze between his fingers, and drawn upward. This brings the uterosacral ligaments taut so that they are easily seen, and holds them in a better position for treatment. Two long, slim artery-forceps now seize the uterosacral ligament at such a distance as will, by folding, bring the uterus back into the proper position. This distance must of course be estimated for each individual.

It will not, however, be necessary to shorten them so much as to make the ligament very taut. A suture of fine chromic catgut, or other material that will last for two weeks, is passed through the apex of the two folds of the uterosacral ligament, which now appears, as high as necessary through the unfolded part and then tied; the upper forceps is now removed, and the suture is then continued including the three sections of the ligament until the other forceps is reached, when a knot may be made of the suture at this point and the other forceps removed, or the suture may be carried back to its original point and tied with the end that has been left with the first knot. The same treatment is applied to the other uterosacral ligament.

The results of this operation have so far been very highly satisfactory. There have been no cases of relapse. The number of cases of retroflexion requiring this operation is considerable, although it will be found that the resilience of the ligaments is ordinarily sufficient to hold the cervix back after the fundus has been brought into normal position. But in a small percentage of cases there is so great a relaxation of these ligaments that the cervix will, in a very short time, curl forward under the pubic bone even though the fundus is retained in place. I always, when operating for retrodisplacement of the uterus, make an inspection of these ligaments, in order to ascertain their condition and remove the defect if it exists. In prolapse of the uterus this addition to the operation should be done in practically all cases, because the uterosacral ligaments are invariably elongated, or prolapse could not exist. For the reason that the uterosacral ligaments cannot be satisfactorily inspected except by an abdominal incision, and for various other reasons, including the necessity for other operations which are likely to be found imperative when the abdomen is opened, I have pretty much given up the original Alexander operation, except in the very few cases where it is apparent that there are no adhesions, where there is a good position of the cervix, and where it is positive that no intrapelvic or abdominal work is necessary. In all cases of prolapse of the

vagina, I shorten the round and uterosacral ligaments after an abdominal section. The after-results of this operation are more satisfactory than hysterectomy, and there is no mutilation.

For reasons mentioned above, and on account of the difficulty in technic, I gave up, after operating in two cases, the shortening of the uterosacral ligaments by the vaginal route as suggested by Byford.

In prolapse it has been the custom with most surgeons to amputate the cervix before making the plastic operations upon the vagina. The reason for this I do not understand. Of course where this operation is indicated for a glandular hypertrophy it is undoubtedly a proper procedure to remove the diseased mucosa and all the cicatricial tissue. It is certainly not necessary as a routine measure in prolapse when the uterosacral ligaments are shortened. There is, however, a procedure which materially assists the retention of the uterus in its proper position, at the same time leaving the cervix at its normal length. This procedure consists in taking up laterally the posterior vaginal wall just behind the posterior edge of the levator ani. This is the place where, in most women that have not borne children and in some who have, there is a distinct increase in the musculature of the vagina and decrease in its caliber. Where this musculature is deficient, or has been overstretched, if the mucosa and the connective tissue are excised by a longitudinal, elliptical excision and then sutures introduced to draw the edges together laterally, the result is a lessening of the caliber of the vagina at that point, which tends to hold the cervix back in its normal position, and also makes a deeper cul-de-sac, which is of decided advantage in women of the child-bearing age.

In most cases of prolapse, and in those cases where there is a cystocele without marked prolapse, if the cervix is seized with volsellum forceps and carried backward to its normal position, it will be found that the cystocele will disappear, showing that, at least in a majority of cases, the cystocele consists, not in a pocketing of the posterior wall of the bladder, but simply in a sagging caused by the relaxation of the combined bladder and anterior vaginal walls. One advantage of shortening the uterosacral ligaments lies in the fact that it does precisely what the volsellum forceps do when applied as above. It carries the cervix back and obliterates the cystocele, so that in a great many cases, perhaps in a large majority, it will be found that when the uterosacral ligaments are shortened no anterior colporrhaphy is needed. It will sometimes be found that there seems to be a pretty wide posterior insertion of the left uterosacral ligament, so that the ligament is apparently incorpor-

ated into the muscle-wall of the rectum. Care must therefore be taken in selecting the posterior point for suture, that the needle does not penetrate the bowel. This trouble can be obviated by seizing the uterosacral ligament close to the uterus where it is most distinct with a pair of long volsellum forceps and then drawing upon the ligament in a direction away from the sacrum. Another portion of the ligament now becomes distinct, and it in turn is seized with another pair of forceps while the first one is released, and so on until the part near the posterior ending is positively differentiated. A better way, as before stated, is to push the rectum to the side opposite to the ligament to be demonstrated, when the whole length of the ligament is drawn forward like a shelf towards the cavity of Douglas' sac.

When the uterosacral ligaments are thus put upon the stretch it will often be found that at about one-half inch from their uterine ends the peritoneal coverings begin to diverge, making a fork, the outer limb of which passes to the broad ligament at the side of the uterus. This I have generally included in the sutures for the added support. The pain which a few patients complain of after this operation is relieved by the use of an Albert Smith pessary for a few weeks until the soreness is passed.

The chief difficulty in this operation lies in getting sufficient room to work in if the uterus is held up by the hand of the assistant. I therefore

devised this instrument which I show you, which not only holds the uterus firmly, and takes up very little room, but has the advantage of not mutilating the uterus as volsellum forceps do.



It consists of a long-handled catch forceps, the jaws of which are shaped to conform to the shape of the uterus, the ends of the jaws being T shaped. These ends are flat vertically and curved laterally to conform to the convexity of the uterus.* The jaws may be covered with gauze to protect the peritoneum and prevent slipping, but this is not necessary. They will hold firmly without clamping tightly. They are useful in any operation requiring holding up the uterus if that organ is not too much enlarged by new growths.

*Since the above was written I have seen a cut of a forceps quite similar to the one described above, and devised for the same purpose, by Dr. C. W. Barrett, of Chicago, and made by the Kny-Scherer Co. I have not used it, and therefore do not know whether the form is better than mine.

RATTLESNAKE BITE, WITH RECOVERY

By FLORENCE C. BAIER, M. D.

MINNEAPOLIS

In May, 1906, a nurse, Mrs. A. E. W., a widow about to go with her children—one a lad of 14 years—to her claim in South Dakota, asked me for instructions in the treatment of rattlesnake bite. She supplied herself with strychnine sulphate, aromatic spirits of ammonia, whiskey, and potassium permanaganate. On October 18, 1906, soon after noon, the lad mentioned above was bitten by a large "rattler" on the right leg, just above the ankle. Treatment was begun within fifteen minutes after he was bitten. A ligature was applied immediately above the bite but would not stay on, and it was reapplied just below the knee. Strychnine sulphate, gr. 1-120, was given at once, also 15 drops of aromatic spirits of ammonia. This was followed by one-half pint of undiluted whiskey. The site of the wound was washed with a strong carbolic acid

solution, but was neither sucked nor incised, owing chiefly to the frantic struggles of the patient to prevent it. Fifteen drops of aromatic spirits of ammonia were given every fifteen minutes until about 5 p. m.; then every half hour until midnight: then every hour until 24 hours, from the time of the accident, had elapsed.

About a pint and a half of whiskey was given altogether, and once caused vomiting. The patient was boisterous under its effects. The pulse was rapid, but not weak, and the clinical thermometer at no time showed a temperature above normal. Late in the afternoon the patient fell asleep, and wakened complaining of pain in the leg, which was greatly swollen. For this increasing pain, Mrs. W. gave one compound acetanilid tablet. An hour later she gave half such a tablet, and subsequently repeated the dose two

or three times. During the night strychnine sulphate, gr. 1-120, was given twice. After the first 24 hours, laxatives were given freely. The urine became very dark, "almost a chocolate-brown," and a half-teaspoonful of sweet spirits of nitre was given four times a day until the urine became of normal color.

The boy was kept in bed two weeks,—until all swelling had disappeared from the leg—and during this time hot fomentations and massage were

used daily. The leg, for a long time, was stiff and painful and the boy is still a little lame.

The family was seventeen miles from a doctor, with no conveyance and no telephone, and no physician saw the case.

It is said that the rattlesnake poison is especially virulent at that season of the year, and death often ensues in a few moments.

OBTURATOR HERNIA*

By E. D. KEYES, M. D.

WINONA, MINN.

This rare form of hernia passes through the obturator canal, which opens at the anterior part of the obturator membrane for the passage of the obturator vessels and nerve. The vessels and nerve usually lie on the dorsolateral aspect of the sac. The protrusion may pass beneath the fibres of the obturator externus, or take a more superficial course beneath the adductor brevis and pectineus muscles. It is accessible to palpation from the inner aspect of the thigh behind the adductor longus. The contents of the sac are always intestines.

This form of hernia is said to occur more frequently in women than in men, the proportion being 93 to 7. It occurs in advanced life, the average age being over sixty.

The symptoms are said to be not marked as a rule until strangulation occurs. Many herniæ become strangulated as soon as protruded. Pain in the course of the obturator nerve has been noticed in forty-two per cent of the cases. After strangulation, tenderness and pain on movement of the thigh become marked. The tumor is not so easily seen as palpated. The neck can often be felt by vaginal or rectal examination. The size is usually small, although cases have been seen in which the tumor was the size of a small orange.

The treatment is always operative, as mechanical retention is impossible.

This brief outline of obturator hernia is brought before you because the writer has recently had a case, and because of its rarity. The case in question was seen about midnight on May 2, 1906. The patient was a man, 51 years old, of spare, poorly nourished frame. While milking his cow at about 7:30 p. m., he was suddenly seized with an intense pain, referred at first to his abdomen, later extending down his

left thigh. He was a farmer living about four miles in the country, and when the writer arrived at his home he was writhing in pain with the left leg partly flexed, and pounding the walls beside his couch with his hands in his agony. A hypodermic of morphia (gr. $\frac{1}{4}$) had no effect on his pain, and a second $\frac{1}{4}$ gr. finally relieved him, so that an account of his mishap could be secured. Careful examination gradually located the center of disturbance in the left groin, with the most painful point below the pubic crest and internal to the saphenous opening.

It was so tender that no palpation of this area was allowed, in spite of the $\frac{1}{2}$ gr. of morphia. Any movement of the thigh caused him to cry out, and the pain extended down the inner anterior aspect of the thigh to the knee. He was so thin and free from fatty padding that it was easy to exclude both inguinal and femoral hernia. A mental diagnosis of obturator hernia was made, but as the patient refused to be moved, nothing was left but to return home with the promise that he would come to town the next morning if the pain returned. Nothing was heard from him till 2 p. m. the next day, May 3d, when an urgent call came for help, and on going out there, with the aid of his pastor, he was persuaded to come to the hospital, and was operated upon the same evening, twenty-four hours after the accident. Without any attempt at external reduction, a median incision gave access to the pelvis, and a knuckle of the small intestine was found so firmly wedged into the obturator foramen that all the traction I dared to exert on it failed to dislodge it. A nick in the edge of the constriction allowed it to slip out. It was then found that less than one-half of the circumference of the intestine was strangulated, and this blackened portion was turned in by a double row of Lembert sutures placed transversely.

*Read before the Southern Minnesota Medical Society, August 17, 1906.

The only complication in his recovery was a complete obstruction of the bowels for the first five days, due to the turning in of the strangulated portion of the bowel. After the fifth day he began to pass gas and finally fecal matter,

and at the end of seven or eight days the bowels moved freely, and have done so ever since without symptoms. He has been at work on his farm since the end of a month after his operation.

PHYSIOLOGIC CHEMISTRY

CONDUCTED BY

RICHARD OLDING BEARD, M. D.

Professor of Physiology, University of Minnesota

ASSISTED BY

J. P. SEDGWICK, B. S., M. D.

Instructor in Physiologic Chemistry, University of Minnesota

MUSCLE EXTRACTS AND BEEF TEA

If it is true of therapy, it certainly is of dietary, that it should be based upon physiologic action. In this relation, clinical value attaches to the experiments of Prof. Slade, of the University of Cambridge, upon the physiologic effects of muscle extracts.*

This Department has recently entertained the question of the calorimetric value of beef tea (practically a muscle extract), and it is interesting to find that its dietetic conclusions are supported by experimental study. The results of Prof. Slade's work are summarized as follows:

1. Muscle extract has no stimulant action upon the central nervous system, or upon the power of doing physical work in man.

2. In moderate doses, it increases the rate and activity of the heart.

3. The arterioles are constricted, although after small doses there is initial dilatation.

4. The movements of plain muscles throughout the body are increased.

5. Muscle extract in 0.5 per cent solution increases the work of voluntary muscle; in 0.1 per cent solution it has no effect upon it; in 2 per cent solution it decreases the work.

6. The effect of fatiguing a muscle, before preparing an extract from it, increases its extractives, and this increases the activity of the extract.

7. If injected into animals, it causes great languor, prostration, and all the symptoms characteristic of fatigue.

8. Muscle extract, administered as "beef tea," acts as a moderate diuretic to men and other animals. The diuresis is associated with vasodilatation of the kidney.

These effects of muscle extract are found to

be dependent upon the presence of certain nitrogenous extractives, viz.: xanthin, ornithin, and novain. They are not due to any food principles. In a word, the action is that of a stimulant in general and, in the main, of alcoholic stimulants in particular. These stimulative properties are best exhibited in small doses; the effects are exhaustive in large.

BEARD.

NITROGEN EXCRETION

Lately a great deal of work has been done by American chemists and clinicians in regard to the significance of various forms of nitrogen excretion.

One stimulus to this study has been the description of a simple calorimetric method of kreatinin determination, by Folin of Massachusetts. The older precipitation method by the estimation of kreatinin zinc chloride is tedious.

Benedict and Myers give a study of the normal excretion of kreatinin in women, in the May number of the American Journal of Physiology. In the Bulletin of Johns Hopkins' Hospital and in the American Journal of the Medical Sciences, Williams recounts his studies of the relation of the vomiting of pregnancy to the ammonia coefficient, and considers the latter of great diagnostic and prognostic value.

Ewing and Wolf, however, consider the ammonia coefficient too inconstant to be of diagnostic value. They have studied the quantitative estimation of all the nitrogen compounds in the urine, together with their relation to each other. They consider these relations to be of value in differentiating disturbances of metabolism in various toxemias, from conditions of non-toxic and functional origin.

They determine the total nitrogen and then the urea, uric acid, ammonia, and kreatinin ex-

* British Journal of Physiology, Vol. xxxv., No. 3.

cretion. The sum of the latter four extracted from the total nitrogen gives an "undetermined nitrogen" value, which they consider of especial importance.

The study of the relation of this "undetermined nitrogen" to the "colloidal nitrogen" of Salkowski appeared in the American Journal of the Medical Sciences for March, 1907.

It is to be hoped that these studies will throw much needed light on certain points of nitrogen metabolism which are as yet obscure.

SEDGWICK.

THE APPLICATION OF PHYSIOLOGIC CHEMISTRY TO THE PRACTICE OF INFANT-FEEDING

During the past year it has been the endeavor of the writer to place before the readers of THE JOURNAL-LANCET, as in "Curds," "Acidosis," and "Maltose," etc., certain fundamental physiologic chemistry principles which find especial application in infant-feeding. These principles as elaborated, for the most part, by the schools of Heubner and Czerny, of Berlin and Breslau, mark a distinct advance, in placing infant-feeding on a sound scientific basis and giving us definite indications for certain procedures. It is Czerny, in particular, who protests against "trying" one food and then another until one is found to fit.

This is not the place to elaborate the clinical side of the question, but the readers of THE JOURNAL-LANCET are recommended to read the very interesting article of Brennemann, in the Journal of the American Medical Association, for April 20, 1907, and the article by Walls, in the following number (April 27) of the same journal.

These principles are at variance in many points with those of "modified milk" and "cream feeding," but the writer can, from experience of their use in the past few years, vouch for their soundness.

SEDGWICK.

THORIUM

It is a pleasure to call attention to the interesting and carefully conducted "Pharmacologic Investigations on Thorium" which are reported by Dr. E. D. Brown, of the University of Minnesota, in connection with Dr. Torvald Sollman, in this month's number of the American Journal of Physiology.

Thorium, which was once considered as one of the rarer elements, has recently come to be a household necessity. It will be remembered that 98 per cent to 99 per cent of the mantle of the lamp of Auer von Welsbach is made up of thorium oxide.

The work is taken up as follows:

- I. Qualitative Reaction of Thorium.
- II. The Quantitative Estimation of Thorium.
- III. The Absorption and Excretion of Thorium.
- IV. The Pharmacologic Action of Thorium.
- V. Conclusions.

Some of the conclusions are as follows:

"Thorium resembles aluminum in its chemical and pharmacological actions."

"When thorium is given by mouth, it can be discovered in the feces, but not in the urine; when it is injected into the tissues or into the circulation it can be demonstrated in the urine, but not in the feces, indicating that it is neither absorbed nor excreted by the alimentary canal."

"The thorium citrate has little if any effect on bacteria or mould."

The statement, "In fact we did not encounter a single instance in which we felt justified in referring death to the systemic action of thorium," will be of interest in connection with the wide use of this element.

The acquirement by the University of Minnesota of a man capable of work of this character will, let us hope, be a stimulus to original work in all departments.

SEDGWICK.

BUTTERMILK FEEDING

H. C. Carpenter, Philadelphia (Journal A. M. A., May 11), reports twelve cases of babies with infantile atrophy, gastro-enteritis, etc., in whom he had generally good results from the use of the following mixture: Buttermilk, 1 quart; wheat flour, 3 1-3 teaspoonfuls; granulated sugar, 15 teaspoonfuls. The ingredients were carefully mixed, heated up to the boiling point but not boiled, and then rapidly cooled and kept till used. Full directions are given for the preparation, precautions against curdling, etc. The cases were not selected as likely to do well, but in every case regular milk mixtures had been tried and failed before the buttermilk feeding was begun. The ages ranged from 1 to 15 months; the average gain in weight during the use of buttermilk was eight ounces a week. Carpenter remarks the advantage of cheapness in the buttermilk feeding and believes it a most excellent food for infants suffering from intestinal indigestion, enteritis, and marasmus. He has observed no unpleasant effects from its use; children almost invariably take it well. The point he specially emphasizes is that the success is not so much due to the absence of fat as to the great ease with which the proteid of buttermilk is digested. He has observed this in almost every case. Several of the infants who were unable to digest 0.75 per cent of calcium casein digested perfectly the 2 or 3 per cent of casein lactate in the buttermilk.

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NOTICE

The State Association meets in Duluth Tuesday, August 13, 1907, instead of August 20, as heretofore announced.

THE JOURNAL-LANCET AND THE
SOUTH DAKOTA ASSOCIATION

It is with special pleasure that we announce that THE JOURNAL-LANCET has been made the official organ of the South Dakota State Medical Association, and that the transactions of the last meeting, with the papers read at the same, will appear in our columns, beginning at an early date.

The program of the annual meeting and reports from outside physicians in attendance testify to the high character of the papers read and the discussions. One thing is especially noticeable: The program shows that it was planned for general practitioners, rather than for specialists, and that the former brought to the Association many live topics.

The publication in our columns of these papers and discussions, together with the transactions, will give our readers outside of South Dakota an

opportunity to see what progress medical men are making in a state that within the past ten years has led all the other states of the Union in material progress. The medical-practice laws of South Dakota are to-day among the best in the country, while only a few years ago they were among the worst; and they are now enforced with unusual vigor. With the co-operation of the officers of the State Association and the district societies, we hope to be able to give all the interesting medical news of the state, which, we have learned, is of great interest to all physicians of the Northwest.

The columns of THE JOURNAL-LANCET will be expanded as much as may be necessary to meet the extra demands upon our space.

THE ATLANTIC CITY MEETING OF THE
A. M. A.

As usual, the crowds at Atlantic City are reinforced by a large number of physicians from all over the country. Noted men from abroad are to read papers and take part in discussions. The program is filled with interesting papers, divided into groups according to the various Sections.

It is instructive to note the earnestness of the physicians who attend the meetings. The majority come from long distances to attend their Section meetings, to renew old friendships, to meet new men, and to gather information. One passes groups of men who are promenading the "Board Walk," still discussing the subjects in medicine in which they are interested. The gatherings at these wonderful hotels are of the same type, interestingly discussing some phase of medical advancement while they are supposed to be on pleasure bent.

It is a great source of gratification to be able to record again the fact that the men in medicine are the most earnest, serious, and studious of any of the learned professions. The number of members who are given to frivolity or excesses is rapidly diminishing, and it is especially noteworthy to find but few who are not temperate in their habits. Since the reorganization of the A. M. A. there has been a higher grade of men in attendance in every branch of medicine and surgery.

The men who formerly came to carouse either stay at home or have changed their viewpoint and are reforming and reorganizing themselves.

The general meeting, on Tuesday morning, June 4, was a very large one, and the idol of the crowd was the President, W. J. Mayo, who laid down the gavel for his successor.

The new President, Dr. Bryant, was warmly

received and was graciously listened to while he delivered his introductory address.

The combined session, on Wednesday, made up of internal medicine, surgery, physiology and pathology, attracted a great crowd who listened to a symposium on exophthalmic goitre. Men famous in this country for their attention to and investigations in this disease, together with the celebrated Swiss surgeon, Dr. Kocher, presented a strong line of papers.

The sessions are well attended, and everyone is busy with Section work, alumni banquets, and the evening orations.

The attendance is greater than at the previous Atlantic City meeting. More than 3,500 have registered, and the hotels are crowded.

The disgruntled minority are not so active as was promised, and the Association will continue to grow in spite of the dissatisfaction of a few.

The meeting of the American Medical Editors' Association was highly instructive, and many valuable papers were presented. The organization is growing rapidly. More than 100 journals are represented. There is evidently a better feeling toward the state journals, and less anxiety among the independents. Good-fellowship was evident in the discussions, and all of the journals are trying to reach a higher standard and will do what is best for their subscribers. Their own shortcomings are fully appreciated, and before another year is passed the journals will show much improvement.

THE PATHOLOGY OF DEMENTIA PARALYTICA

Few diseases have received more attention in the attempt to fathom their etiology than has dementia paralytica, but it is by no means certain that the real cause is yet discovered. Text-books of fifteen and twenty years ago assign the chief role as a causative agent to alcoholism, and syphilis is rarely mentioned. More recently an attempt has been made to connect the disease with syphilis, and many of the best neuropathologists now believe that dementia paralytica is invariably the result of a parasymphilitic toxine, and to alcohol is assigned a minor role. Very recently, W. Forbes Robertson, pathologist to the Scottish Asylums, has announced the discovery of the bacillus "paralyticans," a diphtheroid bacillus, apparently distinct, however, from the Klebs-Löffler organism, which, in the opinion of Robertson and his co-workers, is the cause of dementia paralytica and its near relative, tabes dorsalis. This organism has been found in the brain and alimentary and respiratory tracts and in the urine, blood and cerebrospinal fluid taken from the living body. Three rats and a goat inocu-

lated with it have shown symptoms and ultimately pathological changes somewhat similar to the well-known clinical and pathological condition found in dementia paralytica. In twenty consecutive cases of dementia paralytica and ten of tabes dorsalis the organism was found in every instance. The author is firmly convinced that the organism described by him is the cause of the two diseases, and he points out the possibility of their early diagnosis by means of cultures or smears obtained from the blood or by lumbar puncture. He also is endeavoring to develop a serum which he believes will give a practical cure in cases treated at an early stage and, in any case, will at least induce a prolonged remission.

It has long been recognized that, both in its symptomatology and pathology, dementia paralytica presents the general characteristics of an inflammation due to an irritant acting especially on the brain and spinal cord. Whether Robertson has found this agent remains to be determined. Investigations are now progressing in other laboratories with the idea of confirming and extending the observations already made. In the American Journal of Insanity for October, 1906, Dr. F. W. Langdon, of Cincinnati, reports the finding of a similar organism in two cases of paresis, and in a third case of doubtful nature.

If Robertson's hopes should prove to be well founded, there is a fair prospect that this increasingly common and terrible affliction of mankind will be mastered, and medical science once more confer on humanity a lasting obligation.

THEY SAY

Whether or not we have a craving to see ourselves as others see us, such a peep at ourselves ought to be taken now and then, if for no other reason, to remind us that some people think we are mortals, if not dogs, with mortal failings. The past few weeks have furnished the editors of medical journals an opportunity to see their medical fellowmen as they are seen by others, and it may not be unprofitable for our readers to see the vision as it is set forth in the lay journals of the country in their comment upon us which have been suggested by some of our words and acts.

Many hundreds, if not thousands, of editorials have been written recently for the lay press upon the assumed, or rather suggested, premise that the graduates of our medical colleges "don't know nothin'," and we think beyond a doubt a public sentiment has been created against be-

ginners in medicine that will be very hurtful to many. Upon the justice of this position we commented last month, and need not dwell further upon it.

Our demand for reasonable fees has been met almost everywhere by unfavorable comment from the lay press, and it is difficult to understand why. The explanation may be found, perhaps in part, in the same misunderstanding that causes the comment on our action in regard to advertising, which will be considered under the next head, or shall we say glimpse of us?

It is quite common for medical societies, mainly local societies, to ask their home papers to refrain from mentioning the names of physicians in connection with cases that the papers see fit to report as a matter of news. Such a request upon the face of it is absurd, and quite worthy of ridicule, and ridicule it gets in abundance. When this request is made, as it always is, in order to knock out the last prop from under the doctor who seeks notoriety, largely of his own making, through an easy press, a man of sufficient intelligence to run a newspaper ought to be able to see that medical men, better than anybody else, feel their responsibility to protect the public from the charlatan and the quack who always uses the lay press to enable him to carry on a business that cannot be characterized other than as nefarious, if not worse. When a farmer has been swindled out of a few hundred dollars by a traveling doctor, the lay press is loud in its denunciation of the thief. Why should it not be just as virtuous in dealing with the man who does the same work at a dollar a call? Such men are always seeking the local columns of the country press, and generally without pay. If the medical profession seeks to protect the public by denying themselves the pleasure and perhaps the profit that comes from such mention, even if properly given, why should their methods be misconstrued?

And so we might present visions of ourselves to the end of a long chapter, and all quite unfavorable; but there is a brighter side. The lay press has done efficient work in spreading information concerning our work in suppressing tuberculosis, and its comments on all sanitary matters and preventive measures are wise, and unstinted praise is often given the profession. Let us use the lay press more when we can do so for the good of the public and the profession rather than for the individual who may be tempted to think more of himself than of his fellow practitioners, or of his patients.

HIGHER QUALIFICATIONS

Without a satisfactory explanation it may seem somewhat anomalous that the graduating class from the Medical Department of the State University grows smaller, while the classes in all other departments show a marked increase. The explanation is very simple, and very commendable to the men at the head of the Department of Medicine. The class has been subjected to a severe weeding-out process, not because it contained an undue portion of incompetents, but because the faculty feels that the standard of the graduates should be increased. It has been high, compared with that maintained in other medical schools, and has been so recognized by men familiar with the work done here and elsewhere, but it has been below the ideals set by the present faculty.

The class of 1908, having been submitted to the same process of depletion, will also show a falling off in numbers, but there is no fear for subsequent classes, for the higher the standard of work done the greater will be the attraction of the school.

REPORTS OF SOCIETIES

CLAY-BECKER SOCIETY

A meeting of the Clay-Becker Medical Society was held at Moorhead Monday evening, April 29th. Representatives were present from nearly every town in the two counties, and a banquet was held at 6 o'clock, after which the regular program was carried out. Among the most important things that were considered was the fee-bill, which had been under consideration by the committee for several months, and a competent bill was adopted. As a rule, better prices were made the standard. The bill will be printed and copies sent to each member, and the sentiment of the meeting was to strictly adhere to the scale.

Three new applications for membership were received, and the Society was reported to be in a flourishing condition. Three members have been lost during the past year, two by removal from the jurisdiction, and only one by failure to pay his dues. Owing to the lateness of the hour the reading of papers was deferred until the next meeting.

The next meeting was voted to be held at Detroit, the last Monday in July.

E. R. BARTON, M. D., Secretary.

ST. LOUIS COUNTY SOCIETY

We have just completed our first experiment in doing post-graduate work at home. Dr. Paul Gronnerud, of Chicago, who gives a course in operative surgery and surgical anatomy at the Polyclinic, was induced to come to Duluth and give his course here.

Three classes of four men each were organized and met for from two to three hours every day for over a week.

The course was a success in every respect, the men expressing themselves as more than pleased with the work and glad to be able to take it with so little inconvenience. Incidentally, the expense of the course was just about the same as the round trip to Chicago would have been.

We should be glad to hear any suggestions from other societies that have tried this work and can recommend any special course of study. Is there any special course of printed lectures, quiz compend, or monographs that could be used as a text?

C. W. TAYLOR, M. D., Secretary.

HENNEPIN COUNTY SOCIETY

A regular meeting of the Hennepin County Society was held on June 3d, Dr. A. T. Mann, the vice-president, presiding. There were thirty-five members present.

The committee appointed to draw up resolutions and present a memorial in regard to Dr. Chas. Simpson, reported as follows:

Dr. Charles Simpson was born in Edzall, Scotland, in 1843, and died May 16, 1907. He came to this state at the age of 14 years. Being a good English scholar, he fitted for college and entered Hamline university, graduating in 1869. Having pursued the study of medicine during his college course, the following September he entered the College of Physicians and Surgeons, New York City, and graduated in 1871. In July, the same year, he came to Minneapolis and opened an office on the east side with Dr. Asa Johnson. He at once joined the Hennepin County Medical Society, and took an active interest in the work of the Society. His ability and gentlemanly conduct soon introduced him into good society and a lucrative practice. As time rolled on his personal friends and fellow citizens advanced him to places of trust: first as president of the Hennepin County Medical Society, member of the School Board, Health officer, member of the University Medical-Examining Board, and, not least, one of the surgeons of the Great Northern Railroad. Dr. Charles Simpson filled more positions of trust in the city and state than any one of the surviving members in the Society. His ability and square-dealing with his professional co-laborers made him a popular man in the profession.

Whereas, Dr. Charles Simpson has been summoned to relinquish his work here to answer a call to a higher and more beautiful life.

Resolved, That in the death of Dr. Simpson the

Hennepin County Medical Society has lost one of its oldest and most honored members, one whom its members at all times relied on for the wisdom of his counsel and honored for the uprightness of his character.

Resolved, That a copy of these resolutions be spread on the minutes of the Society and that a copy together with our sympathy be sent to the family of Dr. Simpson.

DR. R. J. HILL,
DR. EDWIN PHILLIPS,
DR. W. A. JONES.
Committee.

The report of the Banquet Committee was received and placed on file.

The Censors reported favorably the name of Dr. Arthur E. Smith, who was duly elected to membership. The names of Drs. J. E. Dewar and G. W. Balcom were proposed for membership.

It was moved and carried that the president appoint a committee of ten (10) to confer with the mayor in regard to enforcing the law prohibiting the use of fireworks.

Dr. E. K. Green read a paper on "Diphtheria from the Clinical Standpoint." The discussion was opened by Dr. L. A. Nippert and entered into by Drs. E. Z. Wanous and H. B. Sweetser, the discussion being closed by the essayist.

Dr. J. P. Sedgwick gave a paper on the "Digestion of Proteids in Infants," which was discussed by Drs. A. C. Tingdale, C. G. Weston, H. B. Sweetser and L. A. Nippert, the discussion being closed by Dr. Green.

C. H. BRADLEY, M. D., Secretary.

NEWS ITEMS

NOTICE

The State Association meets in Duluth Tuesday, August 13, 1907, instead of August 20, as heretofore announced.

Dr. E. A. Shannon has moved from Buffalo to Bemidji.

Dr. John S. Seeley has moved from Fari-bault to Elysian.

Dr. John Jackola, of Hancock, Mich., has moved to Duluth.

Dr. H. D. Newkirk has moved from Wollerton to Litchfield.

Dr. Carl O. Olson, of Groton, S. D., is doing post-graduate work in Chicago.

Dr. David Gordon, of Albert Lea, is doing post-graduate work in Chicago.

Dr. G. A. Landman, of Parkston, S. D., has moved to Milwaukee, Wis.

Dr. James H. Hammond, one of the old-time physicians of Minneapolis, died May 31st.

The 1907 graduating class from the Medical Department of the State University numbers 37.

The Medical Department of Hamline University graduated a class of sixteen on June 6th.

Dr. M. N. Leland, of Minneapolis, was married last month to Miss Josephine Homan, of Wells.

Dr. D. S. Brogunier, of Wahpeton, N. D., is in Chicago doing post-graduate work at Northwestern.

Dr. J. R. Morrison, of Donnybrook, N. D., has decided to locate on the coast, probably at Spokane.

The Dunham Hospital of Sioux Falls, S. D., was reopened last month, having been refitted throughout.

Dr. J. C. Farmer, of McKinley, has returned from Chicago, where he has been doing post-graduate work.

Dr. F. D. Huxley, of Faribault, State University, 1900, has gone to Europe for several months' study.

Dr. Otto G. Wicherski, of Frankfort, S. D., was married last month to Miss Helen Jeardon, of Plattsville, Wis.

Dr. J. D. Windell, of Minot, N. D., will take a course in post-graduate work in Chicago during the summer.

Dr. P. F. Guyerman, of Worthington, was married last month to Miss Sousan Stoutemeyer, of Brewster.

Dr. C. B. Lenont, of Virginia, has plans drawn for a new hospital, and work will be begun upon the building at once.

Drs. G. A. and A. W. Stevenson, of Albert Lea, have moved to Minneapolis and will have offices in the Globe building.

Dr. Nathaniel K. Whittemore, of Elk River, died May 31st of Bright's disease at the age of 60. He located in Elk River in 1873.

Dr. M. Boeckman, of Thief River Falls, has returned to his work after a year's absence in Europe, mostly in Berlin, in special study.

Dr. Harold W. Baker, who has been an interne at St. Mary's Hospital, Rochester, for the past year, has gone to Boston to begin practice.

Two Chicago nurses, Misses Tooker and Hill, are building at Washburn, Wis., a sanitarium for the treatment of hay-fever, asthma, etc. The building will cost several thousand dollars.

Dr. Arthur J. Gillette, of St. Paul, was married on the 5th instant to Miss Katherine Kennedy, of the same city. Dr. and Mrs. Gillette will spend a couple of months in Europe, mostly in travel.

Dr. H. G. Hieber, a graduate of the Northwestern University, has located at Thief River Falls. After graduation, Dr. Hieber spent a year at Wesley Hospital, Chicago, and a year in Europe.

The Winona General Hospital, of Winona, has received another gift (\$5,000) from its generous patron, Mr. E. S. Youmans. The hospital hopes to be able to build a nurses' home at an early day.

The University of Maryland, at its commencement on May 31st, celebrated its one hundredth anniversary. Among the honorary degrees conferred was one of doctor of laws upon Dr. W. J. Mayo.

The University of Nebraska, located at Omaha, graduated a class of seventeen men and one woman last week from its department of medicine. Dr. Nicholas Senn, of Chicago, delivered the address to the graduating class.

The State Hospital for Crippled Children, located at St. Paul, is now under the management of the State Board of Control. Dr. A. B. Ancker is the superintendent and Dr. Arthur Gillette the surgeon-in-chief of the institution. Its highly efficient work for the poor of the state has not been well enough known in the past. No one who needs its help should be left in ignorance of so beneficent an institution. The board has \$15,000 a year for its maintenance.

The South Dakota State Medical Association met last month in Sioux Falls. The meeting was the best in the history of the Association. Dr. J. W. Bell, of Minneapolis, delivered the oration on medicine, and Dr. Van Buren Knott, of Sioux City, Iowa, delivered the same on surgery. The following were elected officers for the current year: President, L. C. Mead, of Yankton; first vice-president, Dr. S. A. Brown, of Sioux Falls; second vice-president, Dr. O. R. Wright, of Huron; secretary-treasurer, Dr. R. D. Alway, of Aberdeen.

The following physicians were licensed to practice in Montana at the April examinations: Milton Weston Hall, Illinois; William Elder Casey, Missouri; James P. Drisco, Chicago; Walter Colfax Mathews, Maryland; D. H. Griffith, Pennsylvania; Fred Hill Fallomer, Minnesota; James J. Flynn, Omaha; Alford H. Luscher, Maryland; Rosco Boughton, Jr., Illinois;

Dr. J. D. Taylor, Minot; secretary, Dr. H. J. Rowe, Casselton. The next meeting will be held at Grand Forks.

FOR SALE

A complete set of surgical and obstetrical instruments, including cases; also microscope, cheap. Can be seen at 3028 Third avenue south, Minneapolis.

FOR SALE

A twenty-four plate Birtman static machine and all apparatus for giving x-ray and static current treatments. Two x-ray tubes, very little used; $\frac{1}{4}$ H.P. motor, five-speed controller, oxygen generator, insulated platform. All are in first-class condition. Machine without controller and motor, \$140; with both, \$175. Address D., care of this office.

FOR SALE

A practice of \$3,000, in a village of 900 inhabitants in Northwestern Minnesota; excellent farming country. Inhabitants mostly Scandinavians. Will sell practice and outfit at reasonable price if taken at once. Address A., care of this office.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH
OF MINNESOTA FOR THE MONTH OF APRIL, 1907

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF APRIL, 1907

[illegible]

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF APRIL, 1907

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Albert Lea.....	4,500	5,657	10	2	..	3	1	..	..	..	..	..	..	..	..	..	2
Anoka.....	3,769	4,053	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Austin.....	5,474	6,489	6	1	..	..	..	1	..	..	..	..	..	..	..	..	2
Barnesville.....	1,326	1,566	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bemidji.....	2,183	3,800	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Blue Earth.....	2,900	2,364	3	..	..	..	..	..	..	..	..	2	..	..	..	..	..
Brainerd.....	7,524	8,134	16	2	..	..	..	..	..	..	..	..	..	..	1	..	1
Chaska.....	2,165	2,085	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chatfield.....	1,426	1,300	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cloquet.....	3,074	6,117	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Crookston.....	5,359	6,794	6	1	..	..	..	..	..	..	..	..	..	..	1	..	..
Detroit.....	2,060	2,149	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Duluth.....	52,968	64,942	62	4	1	12	..	..	..	..	..	..	..	..	3	1	3
E. Grand Forks.....	2,077	2,489	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ely.....	3,712	4,045	4	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Eveleth.....	2,752	5,332	6	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Faribault.....	7,868	8,279	8	3	..	2	..	..	..	..	..	..	..	..	..	..	..
Fairmont.....	3,440	2,955	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fergus Falls.....	6,072	6,692	4	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Granite Falls.....	1,214	1,340	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hastings.....	3,811	3,810	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Hutchinson.....	2,495	2,489	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jordan.....	1,270	1,311	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake City.....	2,744	2,877	4	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Litchfield.....	2,280	2,415	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Little Falls.....	5,774	5,856	8	1	..	..	..	1	..	..	..	..	..	2	..	..	..
Luverne.....	2,223	2,272	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Le Sueur.....	1,937	1,842	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Madison.....	1,336	1,604	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mankato.....	10,559	10,996	11	1	..	4	..	..	..	..	..	..	..	..	..	..	..
Marshall.....	2,088	2,243	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Melrose.....	1,768	2,151	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Minneapolis.....	202,718	261,974	254	19	3	49	5	5	2	1	..	1	4	10	3	1	24
Montgomery.....	979	1,281	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Montevideo.....	2,146	2,595	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Moorhead.....	3,730	4,794	7	1	..	4	1	..	..	..	..	..	..	..	..	..	..
Morris.....	1,934	2,003	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Prague.....	1,228	1,419	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Ulm.....	5,403	5,720	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Northfield.....	3,210	3,438	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Ortonville.....	1,247	1,612	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Owatonna.....	5,561	5,651	5	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Pipestone.....	2,536	2,885	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Red Lake Falls.....	1,885	1,797	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Red Wing.....	7,525	8,149	6	..	..	1	..	..	..	..	..	..	1	..	..	..	..
Redwood Falls.....	1,661	1,806	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Renville.....	1,075	1,229	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rochester.....	6,843	7,233	13	2	1	1	..	..	..	..	..	1	..	..	..	..	2
Rushford.....	1,100	1,133	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Charles.....	1,304	1,238	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Cloud.....	8,663	9,422	6	..	..	2	..	..	..	..	..	..	..	..	..	..	..
St. James.....	2,607	2,320	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Paul.....	163,632	197,323	192	28	4	21	3	4	4	3	..	2	..	1	..	1	10
St. Peter.....	4,302	4,514	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sauk Centre.....	2,220	2,463	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Shakopee.....	2,046	2,069	4	..	..	1	1	..	..	..	..	..	..	..	..	..	..
Sleepy Eye.....	2,046	2,312	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
So. St. Paul.....	2,322	3,458	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Stillwater.....	12,318	12,435	12	1	1	1	..	..	..	..	..	..	..	..	..	..	..
Thief River Falls.....	1,819	3,502	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tower.....	1,366	1,340	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tracy.....	1,911	2,015	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Virginia.....	2,962	6,056	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wabasha.....	2,528	2,619	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Warren.....	1,276	1,640	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waseca.....	3,103	2,838	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waterville.....	1,260	1,383	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West St. Paul.....	1,830	2,100	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Willmar.....	3,409	4,040	5	2
Windom.....	1,944	1,884	2
Winona.....	19,714	20,334	36	6	..	7	1	1
Worthington.....	2,386	2,276	1

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REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF APRIL, 1907

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Ada.....	1,253	1,515	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Adrian.....	1,258	1,184	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aitkin.....	1,719	1,896	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Akeley.....		1,636	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Alexandria.....	2,681	3,051	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Appleton.....	1,184	1,321	2	1	..	1	..	..	..	..	..	..	..	..	..	..	..
Belle Plaine.....	1,121	1,301	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Benson.....	1,525	1,766	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Breckenridge.....	1,282	1,850	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Buffalo.....	1,040	1,124	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Caledonia.....	1,175	1,405	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Canby.....	1,100	1,505	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cannon Falls.....	1,239	1,460	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cass Lake.....	546	1,062	2	1	..	1	..	..	..	..	..	..	..	..	..	..	1
Chisholm.....		4,231	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dawson.....	962	1,056	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delano.....	967	1,023	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fosston.....	864	1,000	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Frazee.....	1,000	1,146	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glencoe.....	1,780	1,805	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glenwood.....	1,116	1,718	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Graceville.....	856	1,032	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grand Rapids.....	1,428	2,055	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Hallock.....	805	1,014	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hibbing.....	2,481	6,566	14	..	..	3	..	..	..	..	..	..	..	..	..	..	1
Jackson.....	1,756	1,776	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Janesville.....	1,254	1,205	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Kasson.....	1,112	1,049	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kenyon.....	1,202	1,252	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Crystal.....	1,215	1,231	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lanesboro.....	1,102	1,041	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Long Prairie.....	1,385	1,256	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madelia.....	1,272	1,290	3	..	..	2	..	..	..	..	..	..	..	..	..	..	..
Milaca.....	1,204	1,319	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mountain Lake.....	959	1,063	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Mankato.....	939	1,129	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
North St. Paul.....	1,110	1,400	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Olivia.....	970	1,019	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Osakis.....	917	1,056	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Park Rapids.....	1,313	1,719	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pelican Rapids.....	1,033	1,095	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Perham.....	1,182	1,366	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pine City.....	993	1,092	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plainview.....	1,038	1,140	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Preston.....	1,278	1,320	3	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Princeton.....	1,319	1,704	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rush City.....	987	1,041	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rushford.....	1,062	1,040	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Louis Park.....	1,325	1,491	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sandstone.....	1,189	1,589	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Saulk Rapids.....	1,391	1,552	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scanlon.....		1,122	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Stillwater.....	1,422	1,572	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Springfield.....	1,511	1,546	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Spring Valley.....	1,770	1,573	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Staples.....	1,504	2,163	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Two Harbors.....	3,278	4,402	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wadena.....	1,520	1,868	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wells.....	2,017	1,814	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Minneapolis.....	2,250	2,530	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wheaton.....	1,132	1,346	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
White Bear Lake.....	1,288	1,724	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winnebago City.....	1,816	1,553	4	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Winthrop.....	813	1,031	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Zumbrota.....	1,119	1,129	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
State Institutions.....			45	13	..	4	1	..	..	..	..	..	..	..	..	..	2
Other parts of State.....	1,012,328	1,085,886	476	52	3	41	5	7	2	2	..	6	4	3	11	5	27
Total for State.....	1,751,395	1,979,658	1314	15	13	171	20	20	8	9	..	12	10	16	19	8	80

Still births and premature births, 81 (not included in above totals).

No report received. Health officer not doing his duty

THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

VOL. XXVII

JULY 1, 1907

No. 13

THE ELEMENTS OF AN ADEQUATE SYSTEM OF PUBLIC CARE AND TREATMENT FOR THE INSANE*

BY OWEN COPP, M. D.

Secretary State Board of Insanity

BOSTON, MASS.

In the formative period of a new community, the insane, defective, the poor, the physically ill, and the criminal are likely to be found in the same establishment, or in close association under the same management.

The growth of the state, necessitating larger provision, and the need of specialization in dealing with classes so radically different lead naturally to their separation in institutions under appropriate boards of administration and supervision.

THE CLAIMS OF LOCALITY

should receive primary consideration in the location of institutions and distribution of patients, in order that they may be accessible to relatives and friends, to promote convenience and economy of visitation and foster their interest.

EACH INSTITUTION SHOULD HAVE ITS EXCLUSIVE DISTRICT,

receiving all patients of its class directly therefrom, and retaining them throughout their treatment, so far as feasible. A definite and complete problem is thus set for solution, with the minimum of outside dictation, imposing responsibility which develops initiative and efficiency.

THE DISTINCTION OF CLASSES

is imperative, separating the acute and curable from the chronic and incurable, the teachable

defective from the intractable and custodial, the mild and harmless from the turbulent and dangerous, the industrious from the indolent and infirm, and so on to the finer differentiation of individuals according to salient characteristics. These requirements, however, are best met under the same local management, by suitable separation in space, variety of buildings, and equipment and judicious grouping.

THE ATTEMPT TO SEGREGATE THE INCURABLE

in asylums remote from hospitals for the acute and curable is usually ineffectual. Economic and specific reasons compel the retention of so many chronic patients as to defeat the main purpose. The diminution of hospital centers by concentration of the relatively few curable patients removes them farther from their friends during the period of most acute interest. The general board must intervene in the selection of patients for transfer, but through lack of personal knowledge cannot perform this duty most wisely. Under the same management, however, the classification may be complete, easily made by physicians conversant with the peculiarities and needs of patients. The continuity of their treatment and records is preserved. The milder emphasis of incurability is less depressing to patients not insensitive to their condition and future. The hopeful and progressive spirit of the near-by hospital counteracts the tendency to condone the lowering of standards in the asylum for mere care.

*Abstract of a paper read at the National Conference of Charities and Corrections, held at Minneapolis, June 17, 1907.

THE EXTENT OF A HOSPITAL DISTRICT

should be proportionate to its capacity for patients, expanding with its growth to a maximum by readjustment from time to time through the state board.

THE LIMIT OF EXTENSION OF AN INSTITUTION

is a matter of vital importance, which will elicit a great diversity of opinion. All would desire its limitation within the compass of the individual study and treatment of its patients, and within the capacity of a single executive head to conserve efficiency and unity in all departments, both medical and administrative. Such conditions would restrict expansion beyond six to eight hundred, necessary in the small state and possible in one of wide area where accessibility would necessitate numerous centers of moderate size. Unfortunately, however, the insistent demands of highest economy far transcend such bounds.

THE RECONCILIATION OF THESE DISCORDANT FACTORS

under a practical regime is the imperative task of the institutional manager. The history of public institutions shows conclusively that their size is largely determined by reasons of expediency and economy. The call for extension is incessant. A new building may be added to an existing plant with comparative ease, but the necessity of creating the expensive organization of a new hospital center is exceedingly difficult to demonstrate. The lower maintenance charge of the large institution is evident to the many, whereas the compensations of the small hospital in promoting better treatment of patients and higher medical and scientific attainment are recognized only by a small minority. Some argue that the saving in maintenance of the large institution would furnish funds for raising the standard of care and treatment; others that its greater numbers would facilitate the better grouping of patients in appropriate classes and surroundings. Whatever the argument, the fact is indisputable that the evolution of public institutions is generally toward enlargement. The demands of highest economy will hardly be satisfied short of two thousand patients under the same management. Such extension is not desirable nor always necessary, but generally supervenes in spite of all opposition.

HOW, THEN, CAN THE INEVITABLE BE TURNED TO ADVANTAGE?

The right development of an institution seeks two ends (1) efficiency of administration and (2) excellence of medical treatment

and scientific attainment, the first being the foundation of the second. Although secondary in real importance, economy of administration must receive primary consideration, because it is the criterion of success in the minds of the public and the taxpayer, who are able to detect its errors and control their correction. Furthermore, its savings are the sure resources available for the betterment of conditions of patients, whereas every dollar of waste by inefficiency or architectural display takes from their comforts, lowers the standard of their treatment and cramps their quarters.

THE TREND OF PROGRESS

leads irresistibly to expertness in both these directions. Therefore there is need of separating as completely as possible administrative from medical functions, since the qualities of the executive and of the scientist in any high degree rarely coexist in the same person, and if so existing, seldom pass the limits of mediocrity in symmetrical development, while either may be dwarfed by exclusive opportunity of the other.

THE PARTING OF THE WAYS

seems to have been reached where the path of the administrator of institutional affairs diverges from that of the *advanced* student of medical science. The idealist would solve the problem through the lay business manager in control of administration and the scientist of medical treatment and research, but the experience of many failures teaches that the inter-relations and mutual dependence of the two are so close, and so great the incapacity of the layman to comprehend medical and scientific wants, that such dual arrangement is fruitful of strife, wasteful of energy and almost barren of good results. The two radical defects and causes of failure may be removed by

UNIFYING AUTHORITY IN A GENERAL SUPERINTENDENT,

who must be a man of executive capacity, primarily a director of the larger business operations, with competent assistants in administrative details. He must also be a thoroughly trained physician, broad in his conception of medical and scientific requirements, and a sound interpreter and applier of the teachings of the laboratory and research activities. Even then the intricate machinery of administration of a great and compact establishment, on whose operation and adjustment economy depends, and therefore the resources and stability necessary to promote the higher aims of science and treatment, may be easily thrown

out of gear by the variant demands of two main purposes working out in too close association. Interference and incompatibility would be lessened were it feasible to elevate the whole asylum to the hospital regime, in imitation of the general hospital for physical diseases, but the attempt is bound to fail or issue in compromise of standards of both medical and administrative efficiency, because the necessity obtains only in part and the expense would be prohibitive.

THREE LEADING INDICATIONS

thus appear: (1) reduction of intimacy of relation to a workable minimum, (2) concentration of administrative and medical functions so that one without material sacrifice of the other becomes the dominant consideration, and (3) subdivision and clear definition of departments, so distributing work and fixing responsibility as to bring all within the co-ordination of one general superintendent who has had a thorough medical training. These conditions may be met by

CLASSIFICATION AND SPATIAL SEPARATION OF THE INSANE

in three main groups: (1) the acute and curable, (2) the chronic infirm, dangerous and custodial, and (3) the chronic harmless and able-bodied. Individual patients would pass from one class to another according to changes of condition and conduct, thus preserving the identity of each group. Such classification is now common in different wards of hospitals, but the close association causes unfavorable reaction of the chronic on the curable. Separation in space and buildings is essential. The distance apart might vary from a few hundred feet to many miles. The departments caring for these classes may be designated respectively the hospital, the asylum and the colony. Each should be in immediate charge of a resident physician adapted to its peculiar requirements, but all should come under the supervision of the general superintendent who should be the chief executive of the single board of trustees.

THE HOSPITAL

should receive all patients for observation and examination, preliminary to proper disposition in other groups, having its reception house and other provision for classification and short treatment of all clinical types of insanity. The distinctive characteristic of its residual patients would be probable curability. The hospital should be small, retaining not more than ten per cent of the insane population of the composite institution, probably less than 200 out of a maximum of 2,000. It should be the

center of the higher medical and scientific work, under the direction of an expert psychiatrist, with an adequate staff of physicians and laboratory workers. The training-school for nurses should here reach its highest development. The whole regime should be elevated to the plane of the general hospital for acute physical diseases.

THE ADMINISTRATIVE DEMANDS

would be minimized and subordinated in relative importance, so that the hospital and scientific spirit might properly dominate the internal organization for nursing, medical treatment and research, while the scope and duties of the outside administrator would be so clearly defined as to be on a workable basis and general business efficiency not much affected. Thus would be laid the foundations on which the psychiatrist could build according to his capabilities. The investigator would become also a clinician, applying the teachings of the laboratory to the needs of his patients on the ward and becoming an essential part of the hospital organism. The many insane hospitals would provide many such centers, furnishing laboratory facilities and clinical material attractive to the best men. Splendid opportunities could be opened to the teachers of psychiatry and students of medicine by creating psychiatric clinics comparable to those associated with German universities. The influence of such clinics would reach physicians in their vicinity, promoting the earlier treatment of mental disease. The broader scope of research activities already vigorously at work in many insane hospitals would hold out greater hope of advancement, an inducement to new workers and more permanent service.

THE ASYLUM

would receive the chronic infirm, dangerous and untrustworthy. Its main purpose would be humane care, safe custody, palliative treatment, interest in the patient's personality rather than disease entity, and provision for the amenities, diversions and occupations which break the monotony of institutional life, an economical but enlightened order, much simplified by the elimination of higher hospital requirements. There would be need of compact arrangement of buildings, suitable for the classification of patients manifesting every form of mental disorder, and medical equipment sufficient for their alleviation according to the best methods. Ordinary medical capacity and training, however, would be equal to the task, so that executive ability of physicians would be paramount in dealing with the economic problems arising from large numbers, probably not less than fifty per cent

of the totality of inmates of all departments—some 1,000 patients.

Here would be the headquarters of business, financial, clerical, commissary, mechanical and, in part, industrial, necessitating near-by residence of the general superintendent for his convenience and close touch with the department whose need of restrictive discipline would render it most liable to abuses.

THE COLONY

would take from the closed asylum the harmless patients suitable for greater liberty and capable, in variable degree, of industrial re-education. In its simple dwellings, arranged in small and separate groups according to their condition, occupation and character of training, they would find the nearest approach to a home, its comforts and freedom.

The chief aim of the colony would be the utilization of the enormous waste of physical energy latent in the host of idle demented, unused because of mental torpor, damaged brains and weakened powers of application, but capable of quickening, partial regeneration and re-development into useful activity. Although the labor of patients with initiative and of others easily induced to perform common duties is quite generally and fully employed, the great task of re-education of the stupid demented is practically untouched so far as it demands special organization, painstaking training and persistency, comparable in a measure to the efforts and methods of industrial education of the congenitally defective and feeble-minded and promising as great return in production and happiness to patients, fully equivalent to the additional outlay for teachers and attendants.

Here again a simplified and productive regime, applicable to about forty per cent, or 800, of the aggregate of inmates of the whole institution, would effect a further pecuniary saving in the interest of better treatment and study of the curable in the hospital.

The hospital and asylum are more closely related to each other than to the colony, which might have any convenient location within a radius of many miles, if necessary to procure a large tract of wild land, rough and stony at the outset, but fertile and diversified in quality after reduction to tillage by the labor of patients. A limited central organization with a resourceful physician at the head would co-ordinate the numerous small, separate farmsteads and industrial groups, each complete in its home equipment and interests and managed by a good farmer or mechanic, whose wife should be its house mother. These centers

should be mutually independent but responsible to the resident physician.

Some may fear that such an order would be expensive, an outcome inevitable if applied to an unsuitable class of patients, such as those requiring strict oversight and much paid attendance. The prerequisites of success are absence of the necessity of more than ordinary supervision, propriety of comparative freedom, capacity for self-help, and the probability of productive labor. It should also be kept in mind that the useful application of labor especially to the current needs of the institution should take precedence of any production for the outside market or mere occupation and diversion of colonists.

These general principles are equally applicable to the care, classification and training of the feeble-minded and the epileptic, if the school and manual training be added to the hospital equipment, with slight modification of the colony and custodial regimes in adaptation to their special needs.

COMMUNITY ASPECT OF DEALING WITH THE INSANE

Important as always must be the institutional aspect of dealing with the insane, no less so is the community aspect, presenting the urgency of early treatment of incipient mental disease before the legal declaration of insanity, and the terminal needs of the insane after dismissal from asylum care.

EARLY TREATMENT OF MENTAL DISEASE

Insanity has its beginning in the individual of the family under the eye of the general practitioner, who alone, as a rule, may foresee its possibility and forestall its development by preventive counsel, or, recognizing its early manifestations, prescribe curative measures during the most hopeful period. Such exclusive opportunity is usually lost either because the general practitioner has not been well taught in mental diseases at the medical school and has not had clinical demonstration of their early symptoms, or because the scanty means of the poor will not permit home treatment and public facilities for the cure of acute diseases have been denied the mental patient.

The requirement before admission to the insane hospital is twofold: (1) competency of the general practitioner through adequate instruction in mental diseases in the medical school and hospital clinic, (2) sufficiency of public provision for the treatment of incipient mental disease to relieve the necessities of the poor.

ADEQUACY OF CLINICAL TEACHING

with reference to confirmed insanity might be had in the development of the hospital unit of the composite institution before described, but the observation of the early symptoms of mental disease on any large scale would still be impossible. The correlation of mental with physical disease is possible, and the application of similar methods of treatment appropriate, so long as the voluntary relation may be continued.

TREATMENT OF MENTAL DISEASE IN GENERAL HOSPITALS

Prior to the necessity of forcible detention of a mental patient, his exclusion from a special department of the general hospital for acute physical diseases is neither necessary nor justifiable. Initial derangement of the mind of short duration should not bear the stigma of confirmed insanity. The aversion of the patient and his friends to the idea of insanity precludes his early treatment so long as it necessitates association with an insane hospital regime, however enlightened. Humanitarian as well as economic reasons impel to such relief of the poor. Thereby the student of medicine might become familiar with mental disease as he will meet it in general practice. The general practitioner might become competent to treat it and find it practicable to do so with such public facilities, and would avert many insane commitments. Mark the limitation of such treatment to the voluntary period, while the patient is willing or may be tactfully persuaded to co-operate with his caretakers. The special hospital for acute and curable insanity is not to be supplanted nor the functions of the general hospital perverted. This work is supplementary to both, and, otherwise, largely remains undone.

FAMILY CARE OF THE INSANE

The second and last phase of community care relates to the insane who recover or become suitable to resume the ordinary relations of life, either alone or under supervision. The great beneficence of the institution must receive grateful recognition, but it represents a special order, a necessity, not a choice; the inalienable right of the individual to "liberty and the pursuit of happiness" imposes the obligation on the strong to help the weak to that end.

The increase of occurring insanity accounts for less than one-third the accumulation of insane in institutions; sluggishness of outflow, more than two-thirds. Aside from the erection of reasonable safeguards against careless or malicious commitment, the door of the in-

sane hospital should swing wide open to the mentally sick without undue obstruction by legal formalities or parsimony; but, if the barriers of admission be lowered, the hospital physician must assume a graver responsibility in determining the definite need and limit of detention. Should a patient's condition and conduct, the public safety and welfare or the good of posterity require, restraint should be continued, but incapacity for self-support, lack of friends and means, possibility of relapse and undue discrimination against the individual in favor of the community on theoretical grounds, should not prevent release without the justification of actual failure after trial. To this end, persistent, systematized effort should be directed. Such is the province of family care of the chronic and harmless insane. It affords them a chance to prove suitability for ordinary life, to show capacity for usefulness, to dispel apprehensive forebodings of friends and employers, to change an unfavorable environment which has caused relapse, to find industrial opportunity, and to win a new footing which may be held with some hope of permanency, if friendly advice and help are forthcoming in time of stress.

The insane are unstable and deceptive as to their tendencies. Every form of their care may be attended with danger. The public, in whose midst insanity develops and relapses of the recovered supervene, can not be guaranteed absolute security. Family care has its possibilities of danger and abuses. It demands insight, precaution and unremitting watchfulness lest abuses creep in, but experience has shown that, under these conditions, it may be undertaken with benefit to the patient and due respect to the rights of the public.

AFTER-CARE OF THE INSANE

There comes a time, however, in the course of family care, when some patients, who have proven their capability of resuming life's duties, desire to be free from official oversight and all associations reminding them of insanity. They appreciate and are grateful for the old friendship and help, and would return if in distress, but they wish to seek rather than to be sought. These must go out alone usually. Some recovered patients must leave the hospitals without friends, means or employment. Both stand in urgent need of friendly interest and timely response with aid and advice to tide over temporary disabilities. The after-care association, without official connection with the insane and free from the stigma of insanity, would fill this great want.

ARTIFICIAL CONGESTIVE HYPEREMIA, AFTER PROFESSOR BIER*

BY HERMAN A. H. BOUMAN, M. D.

MINNEAPOLIS

Physiologically, there is local hyperemia with every kind of growth or regeneration, and with the degree of intensity of these processes the fullness of blood keeps pace. Every functioning organ is congested during its activity. When the organism defends itself against bodies, gross or minute, chemical poisons or dead parts of its own hyperemia are never lacking. There is no diseased focus in the living body that causes bloodlessness in its locality; it is always infiltrated and walled in with an abundance of blood. Counting the reactions of the system as useful efforts of self-aid, we must accept congestion as the most frequent and common means. It occurs in two ways, by greater or lesser velocity of the blood current. The former chiefly for the purpose of a larger volume of blood flowing through a part to improve nutrition and stimulate growth, the slowing down, always when there is rebuilding of tissue or when there is damage to be repaired. The results of the one rapidly flowing arterial, so-called "active" hyperemia, and of the other slow-flowing, more venous, "passive" hyperemia, differ physically and chemically.

The therapeutic value of general congestion by massage, bath, and electricity, and locally by drugs, cautery, moist and dry hot air, has long been known and praised.

The first to use artificially induced congestive hyperemia was Amboise Paré (1517-1590). He employed it to stimulate insufficient callus-formation. So far as known he had no followers. In 1874 Nicoladoni described the method of von Dunreicher, who also tried passive hyperemia, to prevent pseudarthrosis. Thomas, in his work, "The Principles of the Treatment of Fractures and Dislocations" (1886), quotes fourteen cases treated by his special method. In addition to damming up of blood by constriction he beats the felt-protected ends of the fracture with a rubber-covered hammer. An abundance of blood is thus forced to the parts. Helferich, in 1887, took a rubber tube and constricted the limb just above the fracture. He got vigorous passive congestion, which he tried to bring to bear with yet greater force by snugly wrapping the end of the limb distal to the injury. This writer quotes eleven cases cured, three of which were nailed previously.

When Professor Bier began to work with artificial congestive hyperemia (Stauungs Hyper-

emie), none had thought to employ it for the cure of acute inflammation. Dr. Bier is professor of surgery at Bonn. He got much of his training under von Esmarch at Kiel, and his studies of spinal analgesia and his hot, dry air treatment, as well as his surgery, have made him famous. He was well fitted to enter an unknown field as a fearless pioneer, and to hold to his convictions, received after many years of patient and painstaking practice of his method. The observations of Farre, Travers, Louis, and, later, Frerichs, that pulmonary tuberculosis results, as a rule, when the pulmonary artery is diseased, and Rockitanski's opinion that the heart lesions causing congestion of the lungs granted immunity to tuberculosis, led Prof. Bier to treat tubercular joints with artificial passive congestion. When the constricting rubber bandage or tubing is undesirable, he uses aspirating jars or cups of various sizes and shapes. A small pump or bulb is attached, to exhaust the air. Bier and his followers at various clinics emphasize that in practice it takes much patience to grow skilled and precise in giving the proper doses of hyperemia. Too much damming up does great damage; it is called cold congestion. Though the beating artery is felt under the bandage, the veins are too much compressed, edema comes on rapidly, and dark-red and yellow spots appear, which increase in size and spread. Punctate hemorrhages are seen. The limb is colder to the touch, it feels tired and heavy, and there are sensations of warmth, cold, and prickling. After 20 minutes the whole area below the constriction is dark-red, and after 40 minutes the pain becomes unbearable. All or some of these signs of dangerous congestion are effected with much less constriction or suction, as the case may be. When there is acute inflammation the harm is done much more rapidly. The limb under treatment should never feel cold: there should not be any dark-red spots; there should be relief and cessation of pain, or, in its absence, there should be neither discomfort nor paresthesia. Prof. Bier tells his assistants that the patients know best as to pain. The general effects of the treatment are:

1. Relief of pain, which is the salient feature, and is not only of great comfort to the patient, but also influences the course of the inflammatory process favorably, and mobilizes previously stiffened joints.

2. The bactericidal action. Nötsel injected into passively congested limbs of 67 rabbits fatal

* Read before the Hennepin County Medical Society, June 3, 1907.

doses of anthrax and streptococcus; 51 lived. Von Baumgarten, working on the same line, says that the factors aiding in the effect of passive congestion are (a) delayed absorption; (b) dilution of toxins; (c) lack of sufficient nourishment for bacteria; (d) a certain bactericidal action on the part of the accumulated blood-serum. He further states that the tubercular bacilli are not susceptible to this bactericidal action. Donati and Delfino experimented also with rabbits. They made corresponding incisions in both ears; one was constricted and the other left alone. The process of repair of the constricted ear consumed much less time. Dr. Coley, München, made a bouillon suspension of pus from an empyema of the elbow. To a part of it he added some edema fluid taken from a passively congested arm, and it proved less virulent than the other.

3. It stimulates absorption.

4. It dissolves adhesions and clots.

Professor Bier's first experience was gained in the treatment of tubercular joints. He advises against stasis (1) in case of extensive pulmonary tuberculosis and beginning amyloid where amputations of the tubercular joint is imperative; (2) where there are large abscesses, and hydrops tuberculosus (3) in cases where the position of the limb is so bad that resection will be necessary after the best of success of passive congestion.

In the beginning he used to keep the limbs congested many hours, but now another mode of operation is employed at the Bonn clinic. According to Tilmann, his assistant, patients come every day, and under close observation their limbs are strongly congested for one hour. Before each sitting the edema from the preceding day must have disappeared. Elevation and massage are used for this purpose. Large cold abscesses are opened, cleaned, and filled with iodoform glycerine and sewed up. Only when healing has taken place, is passive congestion begun. Bier asserts that his results have been good, and he has reported many cases in detail.

Of the non-tubercular, acute and subacute joint affections, the gonorrheal arthritis have been subjected to this method with good advantage. The gravest cases have done best. They heal without loss of function. The apparently less severe forms give not so much satisfaction. Dr. Hirsch, of Frankfurt on the Main, has followed Bier. He affirms the alleviation and cessation of pain in every instance, but he failed to shorten the time of convalescence required under ordinary treatment. Dr. Gustav Schwyzer allows me to mention the following case: Miss R. A., kitchen girl, complained of a sore right knee about October 1st. Temperature 99.0; the only joint affected was swollen and tender and gonorrhea denied. Under antirheumatic measures and

rest she got better. On October 3d she worked hard all day, so that at night her knee became very painful. On October 4th she went to the hospital, and her knee was tapped under ether, and gonococci were demonstrated. About two ounces of purulent synovial fluid escaped, and 50cc. of a three-per-cent phenol solution was injected and allowed to run out. The wound was closed, the limb placed on a pillow, and alcohol was freely applied. The girl suffered great pain, nevertheless, and sleep was impossible. On October 5th in the morning there was still intense pain, and the knee could not be touched. She screamed when an attempt was made to lift the limb. A rubber bandage was now applied about the middle of the thigh and closely watched. In the evening there was no more pain, and the patient had a long and peaceful night. On October 6th there was no more pain; the knee was swollen, and it could be raised and gently bent and straightened without complaint. Improvement went on rapidly, and at the end of the week the patient refused to stay in bed.

Other forms of joint trouble have been treated with varying success. The writer had two cases of sore knee the cause of which he failed to find.

Case 1.—Woman, aged 27 years, was very fleshy and had varicose veins. She could not walk on account of the pain in one knee. Nothing could be seen, but a tender spot over the inner condyle was found. Bandaging, liniments, and alcohol wrappings had failed, but passive hyperemia, maintained for two or three hours each day, did away with her complaint.

Case 2.—The other patient, also a woman, but not fleshy, and without the varicose veins, also got well, but had a recurrence of pain in the same joint, which had to be constricted again.

Professor Bier's management of acute inflammations and suppurations is new indeed, since he promotes the inflammatory process instead of fighting it. Systemic infections should contraindicate the use of this method. It is remarkable how little constriction is needed. The fiery-red area about the inflammatory focus soon spreads below the bandage. When the pain becomes alleviated and the congested parts look swollen and rosy-red and feel warm, the proper amount of stasis has been obtained. It may be continued from six to twenty hours under close observation. The bandage or suction apparatus should be shifted at intervals. Prof. Bier claims that the course of suppuration is hastened. Parts which he was accustomed to see doomed to necrosis under the usual treatment were kept alive. The affection was localized, large mutilating incisions avoided, and normal functions restored. Punctures and small incisions are necessary to allow the escape of pus, unless the beneficial influence of the congestion becomes prompt-

ly manifest. Numerous clinicians at important clinics have followed Bier and given their results in detail. Dr. Stich under professor Garre, who has taken the place of the late Prof. von Mikulicz, is a warm advocate. He emphasizes that the stasis treatment proved less simple than it appeared and that it required much patient and painstaking work to get results. Rubricius of the Wöllfler clinic at Prague calls it extremely useful, and Dr. Colley of Munich is an enthusiastic follower. Paronychia, extensive cellulitis of the hand, and tendosynovitis have been successfully treated by all the clinicians. The writer has used it on every patient who has come to him with an infection of the hands. The first patient he used it on was S., employed at a stone quarry. He came on May 5th, at night, and complained of severe pain in his hand. About the base of his right thumb there was a large swelling. There had been an abrasion over the 2d joint. It was near the center of the swollen area, extremely tender. An incision was made on either side of the tendon, and a wet antiseptic dressing applied. He did not sleep all night and came back early May 6th. The process had spread over the dorsum of the hand, and the axillary glands were enlarged and tender. Passive congestion was obtained by placing a three-inch rubber bandage above the elbow. He was cautioned to loosen the bandage should the pain increase or not be lessened. At night he came back. The pain had ceased about three hours after he had left the office. A rosy-red edema of the arm presented, and the center of the swelling was bulging with a big purulent fluid, which was evacuated, when the incision of the previous night was gently re-opened. The bandage was worn another day. The bulging area sloughed out, and healing took place rapidly. I had to go after the man to get back my bandage. His thumb was as good as ever. He stated that he had had a similar experience with his left thumb the year before. He had been properly treated, but it had taken a much longer time to get well.

While Dr. Stich had his best results with patients at the hospital under his personal care, they have good success at the out-patient department of the Hamburg clinic.

For furuncles and carbuncles, as well as for other inflammatory processes not available to bandage, aspirating cups and jars of suitable shapes are used. I have found ordinary glass funnels very satisfactory. The rim must be placed well away on healthy and painless ground. Incipient furuncles (styles, etc.) are aborted in one sitting. The necrotic plug of an advanced furuncle comes out in two or three days. Circumscribed abscesses, suppurating glands, especially puerperal mastitis, have been treated by

Dr. Colley with brilliant success. The writer can testify that the rapid and prompt relief obtained by stasis treatment of mastitis astonished him. Dr. Schuldt of St. Paul has treated a pulmonary empyema with an improvised suction apparatus. The patient did well from the start. The pus, abundant at first, soon diminished and disappeared, and the patient gained twelve pounds in two weeks. Osteomyelitis has not been a fruitful field. At the 34th meeting of the German Surgical Association, in April, 1905, Prof. Bier demonstrated a case of acute suppurative otitis media, which he treated with passive hyperemia by placing an elastic bandage around the neck for twenty-two hours. Of eighteen cases he had cured twelve. Dr. Heine of the University of Berlin was not so successful. He warns the profession to be careful not to lose the opportunity for surgical relief.

The writer has applied a small glass to the ear directly and caused gentle suction with a bulb. In this case the membrane had ruptured, but the pain and fever persisted. A large quantity of serum was removed, and the pain ceased. The patient sent word next day that she was much better and not to come.

This suction applied to the nose should do much good, reducing inflammatory conditions and emptying the sinuses.

Karl Ullman, who has reported several cases of scrotal tuberculosis cured by stasis, has also treated epididymitis with great success.

Two patients of mine had parotiditis complicated with orchitis. The swollen part was constricted with a rubber bandage held in place by a narrow strip of adhesive rubber. The pain lessened, and the swelling became rapidly less, requiring tightening of the bandage from day to day. Another case of gonorrheal origin was treated the same way and did as well. The effectiveness of the well known strapping method was due to the passive congestion produced. Karl Ullman recommends the suction-cups for buboes. No other method, he says, insures such complete drainage and leaves so little scar. The wounds are not only cleared of the infectious contents, but are filled with blood-serum and plasma, which form the best base for the farther organization of tissue. Why should this treatment not be useful in addition to carbolic acid to clean a bone cavity, before the Mosetig Moorhoof bone plug is poured in.

Strebel and Meyer report very favorable results of the aspirating treatment of chronic gonorrhea and prostatitis using catheters with many fine openings and closed at the ends. Dr. Ernst Runge has treated endometritis with this method, and he is favorably impressed. The amount of secretion he was able to remove was enormous. To stimulate absorption I used the

bandage on a syphilitic patient. His penis and scrotum were so distended with serum that the skin seemed ready to break. No other part of his body was edematous. He wore the bandage several days. It had to be drawn tighter each day, and normal dimensions were obtained in a short time.

Dr. Eicher of Berlin has used the aspirating jar to obtain a large quantity of serum for diagnostic purposes. He renders the skin surgically clean, and then scarifies it gently. A clean suction-glass, to which a small test-tube is attached, is placed in position and stasis produced. The serum flows down into the tube; the patient has no discomfort, and the fluid obtained is not contaminated.

In conclusion: With artificially induced hyperemia, Prof. Bier has given us an epoch-making

addition to mechanotherapy. It is a revelation of an old truth. It is Nature's means of fighting. Cupping, cautery, dry and moist heat, massage and medicated bath, hold their good office by the power to bring on congestion.

In acute inflammations:

It seems to increase the opsonic power of the blood-serum, prevents suppuration when used early, and relieves pain remarkably.

Tubercular joints may be saved from resection.

Gonorrheal joints of the gravest kind may be saved, and the pain quickly relieved.

It is not a cure-all, but with intelligence, patience, and painstaking application, it is capable of doing much good to make patient and physician grateful.

THE CLINICAL SYMPTOMS AND DIAGNOSIS OF DIPHTHERIA*

By E. K. GREEN, M. D.

MINNEAPOLIS

Within the memory of practically all of us the diagnosis of diphtheria in a family or community filled the hearts of all with terror. In those early days it was not an uncommon occurrence for whole families to die with this dread disease. To-day, with the advent of bacteriology and the development of serum therapy we feel that we have the disease fairly well under control; but even yet the death-rate is altogether too high and the number suffering from bad after-effects of diphtheria is much larger than it should be. The reasons for this are twofold: First, an uneducated public in not summoning a physician in suspicious cases of sore throat, and, second, the failure of diagnosis after the physician has taken charge of the case.

The greatest boon in accurately diagnosing and properly treating diphtheria was the discovery of the Klebs-Löffler bacillus and the development of the antidiphtheritic serum. We do not have to go outside of this Society to find some of the pioneers in this work, but as that phase of the subject has been more carefully worked out and presented than I could do, I shall confine myself wholly to the clinical side of diphtheria.

While I do not underestimate the value of a bacteriologic diagnosis, having always taken it as final and given it precedence over a clinical diagnosis, yet, as Holt says, "the prevailing tendency to disregard the clinical evi-

dences of the disease and rely wholly upon the bacteriology is greatly to be deprecated." Many of the cases are well started in the disease before the physician sees them, and to delay an extra twelve or twenty-four hours means just that much more of a start for a disease that, in all degrees of severity, is more or less treacherous.

There is no disease where we get a wider range of symptoms than we do in diphtheria. We have all degrees of severity and all variations, from the catarrhal form with practically no symptoms except possibly a slight malaise to the malignant form where death supervenes within twenty-four to thirty-six hours.

First, we should consider the history. Are there existing cases of diphtheria in the family? Has the house in which the family lives been quarantined previously for another family? Are there cases of diphtheria from the same room at school or in the neighborhood, or has the child been exposed to any one with a sore throat, whether quarantined or not? The time of the year should also be considered because, as a rule, in the fall or fore part of the winter, when the children get back into school, cases develop more readily than at other times of the year. Again, especially damp or muggy weather predisposes to epidemics of diphtheria.

Fever is not characteristic or important. It usually runs from 100 degrees to 103 degrees or 103.5 degrees, but where it is depended upon as an important symptom by the patients it is de-

*Read before the Hennepin County Medical Society, June 3, 1907.

ceiving, because, as a rule, it varies and at times they do not seem to have much fever, and they are not aware of the seriousness of the case.

The pulse is not important in the beginning of the disease, for it is only moderately increased and full, and has no special feature, but after the disease has reached its crisis a persistently rapid, weak pulse or an abnormally slow pulse should always be regarded with much concern, as either makes the prognosis bad.* Arthur C., a boy, 16 years of age, treated by another physician for a week for quinsy, had all the symptoms of diphtheria, with a bad phlegmonous angina. He was given large doses of antitoxin, with apparently good results. The membrane disappeared on the second and third day, and his condition seemed comparatively good except that the pulse remained rather slow. Realizing the importance of this symptom, a trained nurse was put on the case and hypodermics of strychnine were given, and every effort made to bring up the pulse, but in spite of all it gradually grew less and less until it reached about 20 or 25, when the patient died.

The kidneys are often affected, although in the majority of cases it is only a slight albuminuria, which readily disappears; but the urine should always be watched, as some very severe cases of nephritis develop from a very light case of diphtheria. Lillian F., aged 12 years. Two months previous her seven-year-old sister died of a rapid case of diphtheria, but at the time she was taken sick the house was quarantined because her father had diphtheria. She was taken sick with some nausea and vomiting and redness of the throat. I at once gave antitoxin, and the next day I got a positive diagnosis from the Health Department. There was a very slight membrane on one tonsil. She did not appear to be at all sick, but I kept her in bed and after four or five days her heart became a little rapid and a slight amount of albumin appeared in the urine, and as she began vomiting and kept it up for a week or so, I fed her by rectum. She gradually got better, but the albumin has never disappeared from the urine, and at times there is quite a large amount. She is now fourteen years of age, weighs 140, is always short of breath, and is pale and shows all signs of a chronic nephritis. In her case I should never have thought of diphtheria had it not been for the history and the bacteriology, and yet she may always be

an invalid as the result of this uncertain disease.

We occasionally meet with complete suppression. Baby B., 18 months old, had a moderate attack of diphtheria, which seemed to improve at once after giving antitoxin, so that on the third day the throat was perfectly clear. On the fourth day complete suppression of the urine came on and persisted for a little over two days, when the child died. Goodale reports that out of 30 cases of complete suppression 27 were fatal.

In the beginning of the disease the nervous symptoms present are a sort of drowsiness or stupor or extreme restlessness, except in some of the very violent cases, where we get delirium. On the other hand, the post-diphtheritic symptom that is most commonly met with, is paralysis of the muscles of deglutition and the palate, but we occasionally get general paralysis with profound weakness. George W., aged 23, had a sore throat for two days, which constantly grew worse. When I saw him the symptoms were very marked with a diphtheritic angina, edema of the uvula, swelling and infiltration of the glands of the neck, and extreme general discomfort. After the antitoxin he immediately began to improve, all the bad symptoms disappeared, and his throat was perfectly clear on the third day, and, as he seemed to make an uncomplicated recovery, I dismissed the case on the fifth day. About three weeks from the time he was taken sick he came to my office, and, as he expressed it, he was "all in." He was so weak he could scarcely get up the stairs. His pulse was a little slow, but regular and nothing abnormal. The urine was normal, and I made a diagnosis of general paralysis following diphtheria. This extreme weakness lasted two or three weeks, and it was several months before he regained his strength.

Occasionally there is an affection of some particular nerve, as, for example, the auditory or sciatic nerve, or of the muscles of the eye. I have two cases in mind illustrating this. One where a girl, three years old, seemed to make a complete recovery except that she became totally deaf and never regained hearing. Another case, Alvin A., 7 years old, with a mild case of diphtheria, after the initial symptoms had disappeared, developed a neuritis of the sciatic nerve so severe that it took hypodermics of morphine to control the pain.

The writers on the subject do not seem to me to put as much importance on the stomach symptoms as they should. Northrup, in his article, says that over one-half of the cases have nausea and vomiting. In my work the

*Through the kindness of Dr. L. A. Nippert, I report some cases seen in connection with him.

majority of all cases at the beginning are somewhat nauseated, and many start with vomiting, and the doctor is called to treat the stomach, when the child never complained of a sore throat at all.

The odor from the throat, though it is not constant, yet seems to be almost characteristic of certain forms, and once detected will never be forgotten.

Pallor is also an important symptom in the diagnosis of the late cases. The toxine seems to destroy the oxygen-carrying element of the blood, and, as a result, we get the anemia.

The angina, in connection with the other symptoms, is the most important of all. As a basis of description I will take Northrup's classification, which is as follows:

1. Catarrhal diphtheria.
2. Fibrinous or pure diphtheria.
3. Phlegmonous, mixed, or streptococcic diphtheria.

4. Septic or gangrenous diphtheria.

1. Catarrhal diphtheria has been described and demonstrated since the discovery of the Klebs-Löffler bacillus. It is simply a reddened and catarrhal condition of the mucous membrane with but slight symptoms of diphtheria. In isolated cases diphtheria is not usually thought of. I had one case, Baby B., 8 months old. Her sister had a mild attack of diphtheria, but made an uncomplicated recovery. During the quarantine Baby B. became restless, lost her appetite, and ran a temperature of a little over 100 degrees, which lasted four or five days. No membrane appeared in the throat, and just about the time her temperature went down I got a positive report from the laboratory.

2. The fibrinous or pure diphtheria begins, usually, on one tonsil as a whitish patch, which gradually spreads over the tonsil. The other tonsil usually becomes involved, and the membrane often extends to the uvula, posterior pillars, or the pharynx. As the membrane grows it becomes thick and adherent, and varies from an opaline to a yellowish or grayish-white or even snow-white. It is often definite in outline, with a bright-red margin of red mucous membrane next to the false membrane. The uvula sometimes becomes edematous, and there is usually glandular involvement. I remember one case. Frank L., 13 years old, had a sore throat for two or three days. When I saw him his general symptoms were not at all marked, but the tonsils, anterior and posterior pillars, uvula, and pharynx, so far as I could see, were covered with a snow-white, thick membrane. In ten days he was out of quarantine, but he suffered later with a certain amount of local paralysis.

3. The phlegmonous, mixed, or streptococcic diphtheria varies from the pure diphtheria in that both tonsils are almost always involved. The membrane is not so definite in outline. It is of a dirty-grayish color, more easily torn to pieces, but quite adherent. The membrane often extends to other parts as in fibrinous diphtheria, and the whole throat is much inflamed and often edematous in places. These are the cases which most often puzzle us in diagnosis. Where the other organisms, aside from diphtheria, predominate we have difficulty in recognizing diphtheria, as in a case I had recently. Wm. R., eleven years old, sick one day, had a temperature of 103.5 degrees, pulse 110, and a very suspicious angina, with a marked membrane on each tonsil, with some glandular enlargement. The next day without antitoxin his temperature was normal, pulse normal, and the throat was clear, but a diagnosis of diphtheria was obtained from the laboratory.

Another case of interest to me, Mr. T., 30 years old, had had syphilis, with ulcers in his mouth. Last winter the ulcers came back on the lips and inside of the cheek. He had had them for six weeks or so. I was called to see him because he doubted the diagnosis of another physician, who had sent in a smear and got report of diphtheria. There was nothing on the tonsils or back of the tonsils except a catarrhal condition, but on the inside of the right cheek was an ulcer with a slight membrane, the cheek was swollen and infiltrated, and though he had no temperature and a normal pulse, yet I felt that in this case the clinical condition of his cheek showed undoubted diphtheria.

Herpetic conditions also mislead us at times. Last fall I saw Sylvia A., 11 years old, with large tonsils covered with patches of a dirty membrane easily brushed off. She had marked herpes on the lips, and consequently, with mild general symptoms, I hardly suspected diphtheria. However, I received a positive report of diphtheria from the laboratory, and later three other cases developed in the same family.

I would like to report still another case of mixed infection: George M., aged 21, with a sore throat and with all the clinical symptoms of a follicular tonsillitis. He promptly recovered until the fifth day, when I was called again, and found the typical angina and clinical symptoms of a diphtheria. I gave antitoxin, and he promptly recovered from that until the tenth day of his sickness, when he developed a sharp attack of mumps.

4. Septic or gangrenous diphtheria is what

we find in patients most readily susceptible to the disease. Here the whole pharyngeal orifice becomes greatly inflamed, the membrane gray or blackish in color, due to the little

amount of mucus is present. We usually do not have much difficulty in diagnosing these cases.

Nasal diphtheria deserves considerable at-

DIFFERENTIAL DIAGNOSIS

	DIPHTHERIA	PSEUDODIPHTHERIA	TONSILLITIS	QUINSY
1 EXPOSURE	Usual	None	None	None
2 PREVIOUS ATTACK	Occasional	Not as a rule	Family or personal tendency	Family or personal tendency
3 ONSET	Gradual	Varies	Abrupt	Gradual
4 TEMPERATURE	Moderate	Variable	High	Moderate
5 PULSE	Moderate, but rises later in the disease	Depends on complications	Rapid	Quite rapid
6 AGE OF PATIENT	Childhood and	youth but may time of life	come on any	Middle age
7 GENERAL APPEARANCE	Toxic	Depends on conditions	Restless	Discomfort very great
8 STOMACH DISTURBANCE	Usually present	Depends on complications	Seldom	Seldom
9 GLANDULAR INVOLVEMENT	Present	Not as a rule	Seldom	Infiltration of peritonsillar tissue
10 KIDNEY INVOLVEMENT	Albumin usually present	Depends on complications	Absent	Albumin sometimes present
11 ANEMIA	Present as a rule	Not as a rule	Absent	Seldom
12 PARALYSIS	Common	Absent	Absent	Absent
13 MEMBRANE a LOCATION	Preference for tonsil, but whole pharyngeal orifice or any mucous surface	Tonsils or abraded surfaces	Tonsils alone	Tonsils
b CHARACTER	Thick, adherent, white or grayish-white, definite in outline and tendency to spread	Varies	In crypts of tonsil as small patches	Grayish and easily brushed off as rule
c ODOR	Characteristic	Varies according to complications	None	Characteristic
d PERSISTENCE	For some time	Depends on complications	A day or so	Several days
e EDEMA OF SURROUNDING MUCOUS MEMBRANE	Sometimes with pure diphtheria and very common in bad, mixed cases	Sometimes present	Absent	Infiltration of peritonsillar tissue and sometimes edema

hemorrhages, and, though preference is shown to the tonsils, it may be found all over the pharyngeal orifice. It bleeds with the slightest disturbance, and many times a large

tention, especially because the membrane is out of sight, and much damage may be done before the actual condition is known. Suspicious colds in the head should be carefully

investigated, especially if in families where diphtheria exists. I wish to report one case, Baby L., aged 2 years. Her brother, 5 years of age, had diphtheria for ten days, the parents thinking it was mumps. He lived only three days after I saw him. One day the mother made the remark that the baby had caught a bad cold in the head. I noticed the sanguine discharge with excoriation of the upper lip, and, suspecting diphtheria, I sent in a smear and got a positive result. The next day, however, the membrane protruded from one of the nostrils. The child was not so sick but what she was running around the house, and with antitoxin, the so-called cold in the head quickly disappeared.

Laryngeal diphtheria, one of the most serious forms of the disease, should receive careful attention. With a number of cases which I have seen, mostly with other physicians, there seems to be a tendency to await developments too long. Holt says all forms of membranous laryngitis should be isolated and given antitoxin upon clinical diagnosis without waiting for a bacteriological report. With pharyngeal diphtheria the diagnosis is easy,* but with primary laryngitis we must depend upon symptoms. They usually come on grad-

ually with a slight hoarseness and with but slight temperature and a moderately accelerated pulse. The hoarseness increases until the voice is entirely lost. Dyspnea in the beginning is scarcely noticeable, but it gradually increases hour by hour. The signs of dyspnea are important. The child may be a little pale or bluish, noticeable in the lips or finger-nails. The respiration is labored, and the alæ of the nose are raised with each inspiration—a very important sign. The supraclavicular, the intercostal, and the epigastric regions retract with each inspiration, and the child tosses about, with the head thrown back and the hands often on the neck in an effort to get air. They look anxious and often appeal to their mothers for help. The pulse is accelerated and weak. As the disease progresses the child becomes stupid, and the struggle ceases when unconsciousness and death supervene. The time necessary for the disease to run its course is varied. Usually within twenty-four to thirty-six hours the danger-point is reached. In some mild cases, however, the disease will last several days or a week and make spontaneous recovery, and the diagnosis of diphtheria, if made at all, will be the result of a laryngeal paralysis.

SOME THOUGHTS ON FRACTURES*

By A. E. HEDBACK, M. D.

MINNEAPOLIS

There is nothing new under the sun. Truth never changes, and fractures are the same today as yesterday and forever. Much progress, however, has been made in our knowledge of them and their proper treatment.

The more general use of anesthesia in the first examination and adjustment has made the diagnosis more accurate, and the result has been a more rational line of treatment. Even when the injury is not very painful, the muscles about the fracture stubbornly resist examination and manipulation. Anesthesia at first treatment is growing in favor. It affords a better examination, easier reduction, and more thorough application of the dressings. The result is better for the patient, and, I am sure, the physician who uses it experiences that feeling of comfort which is an unfailing index of work well done.

The x-rays in fractures have been extolled

by some and pronounced quite useless by others.

J. L. Thomas, in the *British Medical Journal*, May 5, 1906, discussing the influence of x-rays upon the treatment of fractures, concludes as follows: "No new methods of treatment have been introduced since or due to the discovery of the x-rays. The ordinary symptoms of fractures are sufficient to form a correct diagnosis in the vast majority of cases, and the x-rays are unnecessary." And yet he goes on to say: "In injuries to bones and joints, obscure from any cause, the aid of x-rays should always, if possible, be obtained."

Scudder says: "The application of the Roentgen rays, to the diagnosis of fracture of bone has already contributed much toward an accurate interpretation of the physical signs of fracture. This greater certainty in diagnosis has suggested more direct and simpler methods of treatment." That Scudder's meth-

*Read before the Barron-Rusk-Polk County Medical Society of Wisconsin, at Spooner, Wis., June 4, 1907.

ods in the treatment of fractures prove this, I think no one will deny who is familiar with his work.

While the evidence afforded by the rays is oftentimes misleading, yet, if acted upon by those who understand their value, much light is thrown upon obscure cases. They clear up suspicion and confirm diagnosis. Their value does not consist so much in the discovery of a fracture as in the determination of the mechanicopathologic conditions of the fragments. With such insight into the nature of the displacement a more intelligently directed force can be applied instead of the hitherto blind routine manipulation. Less injury is done in setting the fracture, and better anatomical results are obtained.

In retentive appliances there is a tendency to discard the more cumbersome methods for such lighter material as serves the purpose and permits of frequent inspection and adjustment. Strips of adhesive plaster, on this account, are taking the place of bandages. Straps with buckles serve the same purpose. These are especially adapted to retain the outer appliances, and are light, cool, and airy. Sheet wadding is far superior to absorbent cotton. The simplest splint is the best. In Colles' fracture the dorsal splint appeals to me, because this side of the hand and forearm repre-

sents a straighter line than the palmar side.

Antisepsis has opened to operative surgery a profitable field in the treatment of fractures. The open treatment of fractures which cannot be adjusted, or in which there is any doubt about it, is a method growing in favor.

The use of massage as an important part in the treatment of fractures is being recognized more and more. To immobilize the fragments until union has taken place, and then send the patient home with directions to rub it, is not sufficient. Effleurage should be begun at the earliest possible moment and should be systematically and with regular frequency applied. Effleurage assists the circulation in the lymph and blood vessels. This favors reabsorption of exudate, which is of especial importance when injury is near a joint, and it prevents atrophy of muscles confined by splints. If the physician cannot daily attend to this detail, he must leave it to a masseur, or he may instruct some other intelligent person minutely how to do it. If the parts are not well annointed, it will only act as an irritant to the skin and entirely fail of its purpose. Suitable passive movements should accompany the massage. To obtain a good anatomical union is desirable, but *functional restoration*, above all else, should be the aim.

PNEUMODIPLOCOCCIC INFECTION OF A CLEAN WOUND, WITH A PLEA FOR BETTER SAFEGUARDING AGAINST THIS INFECTION

By JAMES H. BEATY, M. D.

ST. CLOUD

It has been the practice of surgeons to thoroughly cleanse the patient, the hands of the operator, and the instruments and appliances, but few surgeons think to cleanse the air of the operating-room or to filter the air exhaled by operators and assistants.

The above practice has served to rid operative work of the terrors of staphylococcic infections and the greater terrors of streptococcic infections, but, with all these precautions, with what frequency do we hear of cases dying soon after operation from pneumonia! and our best surgeons will, even in the face of the fact that the pneumococcus is present, gravely state that the trouble is "ether pneumonia."

I do not doubt that ether can, and does, irritate the lungs, and I have seen a latent or partially recovered bronchitis aggravated by

the use of ether, but when it is claimed that ether produces a pneumonia, it seems to me equivalent to the claim that a cold produces diphtheria or an irritating bath produces measles or small-pox.

I believe that surgical pneumonia is just as much a factor in aseptic surgery as is septicemia from the presence of streptococcic infection, and I claim that it is as much the duty of the surgeon to guard against the one as the other.

The literature on the subject is extremely scanty; in fact, the only practical report on the subject that I can find is that of Dr. Judd, of the Mayo clinic, in which he reports six cases of local wound infection from the pneumodiplococcus. Dr. Judd's cases, however, did not have pulmonary involvement and so

differ from the case I wish to report; the wound lesions, however, were essentially the same as mine.

My case is as follows:

Marian, aged 13, had acute appendicitis, which I treated with rest and no food for four days. On the fifth day, February 21, 1907, I operated for appendicitis, using morphine and chloroform anesthesia on account of a slight bronchial irritation left after a slight cold. She took not to exceed two drams of chloroform. The operation was short, not over fifteen minutes. Subacute appendicitis was found. The appendix was removed clean, and the wound closed without drainage. While bringing the subcutaneous layer together a drop of moisture fell from the skylight and struck my assistant's glove as his hand rested near the wound. We immediately moved the table, and cleansed the glove and the wound, and finished the operation. Next morning the little patient suffered a collapse, but easily revived. Towards noon, twenty-four hours after the operation, she had a chill, and the temperature soared to 105.6°. The wound was clean, and there were no signs of abdominal disturbance of any kind. Next day the right lung showed distinct hepatization, the sputum showed some rust stains, and a diagnosis of pneumonia was made. About four days later one end of the wound was noticed to be moist. A stitch was cut, and a clear serum was discharged, which, upon staining, showed pneumodiplococci. This discharge increased and became very copious for several days before it became purulent. I would roughly estimate the amount of serum as at least a pint. This infection reached only down to the fascia of the external oblique, just where we were when the skylight dripped. When the discharge became purulent I suspected a mixed infection, and therefore made a culture by immersing the gauze-drain in sterile bouillon, and after incubating for 24 hours, I examined it at that time, at 48, and at 72 hours. I found at each time a pure culture of pneumodiplococcus and nothing else. The case was in the hospital four weeks, and the external oblique oponeurosis sloughed and the whole wound gaped. I kept it clean, and when granulations were strong I drew it together with surgeon's plaster strips and got a linear scar. The patient is now in good shape.

Now, what did we have? We did not have ether pneumonia, for we had used no ether. I know of no instance where a pulmonary pneumonia has infected a surgical or accidental wound, and, on the other hand, experimental inoculations of animals with pneumonia us-

ually set up, not only a local infection, but typical pulmonary symptoms.

I claim that we had an infection of this wound probably from the skylight drip, which, being distilled in the air of an occupied room, would probably be full of pneumococci. I regret that I did not make a culture from one of these drops.

Another possibility is that the breath of the operator and the assistant might have infected the wound, but this wound was infected only down to the fascia, while another case operated upon immediately before this by the same operator and assistants was not infected.

Now for the moral.

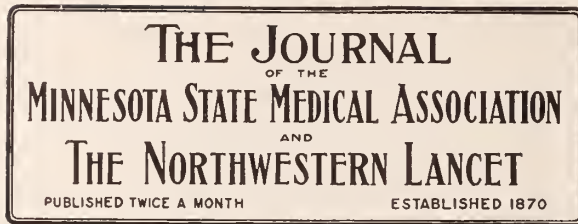
Where can we get pneumococcus?

It is found almost always in the mouth, and therefore in the breath of anyone who has ever suffered from pneumonia. It may be, and is, found in the mouth or breath of many others, and it is necessarily often in the air of rooms, or congealed moisture, as in my case, and is a great source of danger. The breath of attendants is also a source of danger.

The way to avoid the first danger is to have the operating-room frequently fumigated with formaldehyde, and the way to avoid the latter is for every assistant who comes near the operative area to wear a gauze filter over the mouth and nose. These precautions are simple and sensible and as essential as any other part of aseptic technic, and when they are carried out in all cases ether pneumonia will be as infrequently heard of as is the old term of "inflammation of the bowels," which was such a common cause of death before the viciousness of the vermiform appendix became known.

A NEW BLOOD TEST

Max Einhorn describes a new test for blood in the stomach-contents, feces, and urine. It consists of testing with paper sensitized by the use of benzidin. The paper is immersed in the solution to be examined, and a few drops of peroxide of hydrogen are added, when a blue color is formed if blood is present. The blue or green color appears in a few seconds, and we should not wait more than a minute for the reaction to appear, as after that the color may appear from the presence of other substances than blood. HCl may cause the reaction after two or three minutes. The benzidin test can be recommended as a preliminary test; a strong reaction or no reaction at all gives a reliable test.—Medical Record, June 8, 1907.



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JULY 1, 1907

THE MEETING OF THE STATE ASSOCIATION

The change of date, from August 20th to August 13th, of the meeting of the State Association was made by the Council at the suggestion of the Duluth members, because the hotels of Duluth would have been unable to accommodate the crowds expected during the former week, when two large conventions will be in session there.

"YE EDITOR ABROAD"

Under the above caption the proud editor often returns to his dingy office, which he dubs "*sanctum sanctorum*," from a refreshing trip into the country, generally not outside of the county, and writes "big" editorials on what he has observed. Not so to-day, for the "devil" is in the "*sanctum sanctorum*," and he has full possession of the paste-pot, the long shears, and the stub of a pencil sometimes bombastically (the 4th of July is near at hand and recalls this word) styled the editorial pen, said to be mightier than the sword. If "the

pen" fails on this occasion to reveal its usual Aladdin-like power, the explanation is the absence of the learned but *neurotic* editor (excuse our medical terms if they are a little awry—"we" use them to explain the editor as "we" see him). But "we" took our pen in hand to express our delight at the honor conferred upon "our" editor at Atlantic City, when he was made secretary of the Section of Mental and Nervous Diseases. "We" are not quite sure that he will shine in the *mental* end of his job, but he is great (perhaps a dash would express our meaning better) on the *nervous* end. He is just perfection in that line. He illustrates it in his daily walk and talk.

He also introduced—and it was passed—a resolution which "we" wrote for him before he left. It provided for the printing, a month before the meeting, of the papers to be presented to his Section, and it generously allows the author ten minutes to talk about it in the Section meeting, and a like time is given to the man who opens the discussion, and only five minutes to each of the fellows who volunteer to speak. This is an attempt to make men witty through brevity, according to the old saw that "brevity is the soul of wit."

The editor promised to come right home and help get out this issue of his journal, but "we" fear he heard the voices of the sirens when he went out alone on that "board walk" at Atlantic City, made to entrap the weak-minded. He hasn't come back, and has not sent a line of editorial. He just let the paper go to "the devil," and that august personage has a hard time to suppress his pride and come down to writing hot-weather medical editorials. "Our" generous readers must not forget their generosity when they receive this issue. "We" promise them that it shall be the last of its kind.

SUCCESSFUL MEDICAL LEGISLATION

The Northwest may well be proud of its work in medical legislation. Minnesota has taken the lead of all other states along some lines, and has signally failed along others, but this failure has been only in efforts to get stringent laws along lines for which public sentiment was not quite ready, or, perhaps it might better be said, laws which needed for their passage a little more hearty co-operation on the part of the medical profession. The agitation for these measures in Minnesota has brought a rich reward in like lines in other states, and among the states most benefited is Montana.

It must be evident to every man who has taken part in legislation that few laws for the benefit of the public can be passed without a strong public sentiment, for strong opposition will always be encountered, and being interested opposition it will be organized and effective to its full strength.

Dr. Donald Campbell, of Butte, Montana, has done some splendid work in medical legislation. As senator and as a man of strong convictions and great force of character, he has proved himself a man of power in that state. He had introduced House Bill No. 420, and through his efforts and his influence this bill was passed and signed by the governor in 48 hours. It absolutely stops all offensive advertising in the newspapers of the state. The bill is as follows:

OFFENSIVE AND IMPROPER ADVERTISING—HOUSE BILL
NO. 420

An act prohibiting the publication in newspapers, other papers, or otherwise, of offensive, improper, and obscene advertising or other matter, and providing for prosecutions and penalties.

Be It Enacted by the Legislative Assembly of the State of Montana:

Section 1. No newspaper or other paper published or circulated in whole or in part within the State of Montana, shall contain:

Advertisements of cures, appliances or treatments for certain diseases or disorders, to-wit: Stricture, syphilis, impotency, gonorrhea, emissions, and so-called "lost manhood," and other private diseases of men and women, and their complications.

Sec. 2. It is hereby made unlawful to distribute any circulars, dodgers or advertising matter whatsoever advertising remedies for the cure of any of the diseases mentioned in Section 1 of this Act.

Sec. 3. The person advertising, as well as the proprietor, editor, or any person in charge of a printing establishment, violating any of the provisions of this Act shall be guilty of a misdemeanor and shall be punished by a fine of not less than Fifty Dollars nor more than Five Hundred Dollars, or by imprisonment in the county jail for not more than six months.

Sec. 4. Any person publishing, distributing, or causing to be distributed or circulated, any of the advertising matter herein above prohibited shall be guilty of a misdemeanor and punished as prescribed in Section 3 of this Act.

Sec. 5. The production of any advertisement or advertising matter published or distributed contrary to the provisions of this Act shall be, of itself, prima facie evidence of the guilt of the person or persons advertising to cure any such diseases herein-above mentioned, or of the publishers who publish any matter such as is herein prohibited.

Sec. 6. All Acts and parts of Acts in conflict herewith are hereby repealed.

Sec. 7. This Act shall take effect and be in full force and effect from and after its passage and approval.

The bill to regulate the practice of medicine, of which Dr. Campbell is the father, is also an

effective bill, and will "hold" the quack for many a day. This is known as House Bill No. 192, and is as follows:

THE PRACTICE OF MEDICINE—HOUSE BILL NO. 192

An Act to amend Section 606 of the Political Code of the State of Montana, relating to the practice of medicine or surgery contrary to law, providing a penalty therefor, and defining what evidence shall be deemed sufficient to constitute the practice of medicine or surgery.

Be It Enacted by the Legislative Assembly of the State of Montana:

Section 1. That Section 606 of the Political Code be amended so as to read as follows:

Sec. 606. Any person practicing medicine or surgery within this State without first having obtained a certificate to practice, as provided by law, and after his certificate to practice has been revoked, or contrary to the provisions of this Act, shall for each violation of the provisions of this Code, or any Act relating to the practice of medicine or surgery in this State, be guilty of a misdemeanor, and upon conviction shall be punished by a fine of not more than One Thousand Dollars nor less than Two Hundred and Fifty Dollars, or by imprisonment in the county jail not exceeding one year nor less than ninety days, or by both said fine and imprisonment, as the court may determine. Any person shall be regarded as practicing within the meaning of this Act who shall append or affix the letter M.B. or M.D., or the title Dr. or Doctor, or any other sign or appellation in a medical sense to his or her name, who shall publicly profess to be a physician or a surgeon, who shall publicly profess either on his own behalf, in his own name, in his trade name, or on behalf of any other person, corporation, association, partnership, either as manager, bookkeeper, solicitor or other agent, to cure, treat, relieve, or palliate any ailment, disease or other infirmity of the mind or body of another by using or prescribing any drug, medicine, or surgical treatment, or who shall recommend, prescribe or direct for the use of any person any drug, medicine, appliance, apparatus, or other agency, whether material or not material, for the cure, relief or palliation of any ailment or disease of the mind or body, or for the cure or relief of any wound, fracture or bodily injury or other deformity after having received, or with the intent of receiving therefor, either directly or indirectly, any bonus, gift or compensation; provided, however, that nothing in this Section shall be construed to restrain or restrict any legally licensed osteopathic practitioner practicing under the laws of this State. Nothing in this Act shall prohibit any legally licensed pharmacist or mercantile dealer from selling any drugs or medicines which are now allowed to be sold under the laws of the State of Montana or the United States.

Sec. 2. All Acts and parts of Acts in conflict with the provisions of this Act are hereby repealed.

Sec. 3. This Act shall take effect and be in full force from and after its passage and approval.

MEDICOLEGAL TESTIMONY

A recent occurrence in one of the Minneapolis courts again calls attention to the much-discussed relation of physicians to expert testimony. That expert evidence in general has fallen to a most lamentable position in the

courts, no one will deny, though it is doubtful if physicians and medical testimony fare any worse than do experts in other lines. For this discreditable state of affairs, physicians are doubtless themselves to blame to a considerable degree, though there are many faults in the present method of presenting expert testimony for which the profession, as a whole, is in no wise responsible.

So long as law and custom sanction the lawyer in bringing into court, as an expert, almost any physician, if only the physician will testify as the lawyer desires, there will necessarily be great discrepancies in the views of the prosecution and defense on many medical matters. Indeed, it is doubtful if the average man, even if absolutely honest, possesses the proper temperament to permit him to testify without undue bias in a case in which he is retained and paid by one side or the other. That physicians as a class are desirous of bettering the present disgraceful condition of affairs is evidenced by the fact that practically every method suggested for the improvement of medical testimony—and the methods are many—comes from the medical profession.

In a recent suit for damages in Minneapolis, where there was a hopeless disagreement between the views of the medical experts, the presiding judge, on request of the counsel of both prosecution and defense, appointed two physicians to make an examination of the injured party and to report their findings to him, the amount of the fee being determined by the court and paid equally by each of the sides. Though the jury was, of course, in no sense bound to accept the findings of the court's experts, it would appear that their impartial position gave their testimony unusual weight, and the action of the jury was in accordance with their report.

So far as securing the ends of justice is concerned, this would appear to be a most admirable method, though the restriction which it places on the lawyer in the matter of securing testimony, will probably deny it the general acceptance which it deserves. It would seem, however, that with the excellent working of this example before them, either by the method above outlined or by counsel for each side presenting the names of an agreed number of experts from whom the trial judge might name three and determine their compensation, some improvement should be worked out in medicolegal matters in Minnesota; at any rate, when expert testimony is given solely on the point at issue and without any reference to one side or the other, the ends of justice will be better served and the

dignity of the medical profession be better maintained.

AN ADMONITION

As many of our readers are probably beginning to write their papers for the State Association and the annual meetings of county societies, we want to give a word of advice about the preparation of manuscripts.

Of course, they should be typewritten, as far as is convenient, but this does not necessarily free them from errors or make them easy for the editor and printer.

There should be wide side margins and ample space between lines (double-spaced) so that both the author and the editor can make such corrections and changes as are necessary.

All proper names should be spelled correctly, for no editor can know all the names that appear in medical literature.

Quotations should be scrupulously correct, and the beginning and end of a quotation should be plainly indicated by proper marks. It is always best to give the full name of an author quoted, unless his fame is such that the surname is commonly used.

When a manuscript is not typewritten every proper name and every medical term should be so plainly written that each letter may be readily made out. For instance, the "a" in macroscopic should be so plainly written that it cannot possibly be taken for "i," thus making the word microscopic; and the same care should be given to every word that is not familiar to the average type-setter.

NEWS ITEMS

The State Association meets in Duluth Tuesday, August 13, 1907, instead of August 20, as heretofore announced.

Dr. C. B. Teisburg has moved from Ashley to Beaudette.

Dr. C. C. Carpenter, of Minneapolis, has moved to Ely.

Dr. A. A. Sorenson has moved from Summit, S. D., to Aberdeen, S. D.

Dr. I. D. Webster, of Mankato, is at Weiser Hirsch, Germany, for treatment.

Dr. J. W. George, of Aitkin, has been taking a post-graduate course in Chicago.

Dr. J. V. Gilbert, of East Grand Forks, is doing post-graduate work in Chicago.

Dr. J. J. Walker, of Cavalier, N. D., has established a small hospital in that place.

Dr. Ludwig Lima, of Montevideo, will spend several months in Germany in special study.

Dr. L. A. Nippert, of Minneapolis, has gone to Berlin for two or three months' special study.

Dr. J. O. Robb, a recent graduate of the Toronto (Canada) University, has located at Richville.

Dr. Charles A. Wheaton, of St. Paul, has been appointed a member of the police board of that city.

Dr. H. Miller, of Britton, S. D., has moved to Minneapolis, and resides at 2447 Bryant avenue south.

Dr. F. A. Sedlock, of Tyndall, S. D., has been taking some special work in surgery in the hospitals of Omaha.

Dr. H. G. Franzen, of Minneapolis, was married last month to Miss Hattie Hilgerman, of Rhinelander, Wis.

Dr. Joseph P. Kane, of Minneapolis, has located at Belle Plaine. He is a recent graduate of the State University.

Dr. H. P. Russell, of Stewartville, has been doing post-graduate work in Chicago, in eye, ear, nose, and throat work.

It is reported that Dr. Mary P. Hopkins, of the St. Peter State Hospital, will take up general practice at White Bear Lake.

The corner-stone of the new St. Luke Hospital building of Fargo, N. D., was laid last month, with much ceremony.

Dr. A. Stierle, Jr., has moved from Rush City to Bemidji. Dr. Stierle is the secretary of the Chisago-Pine County Medical Society.

Ground has been broken for the Northwestern Hospital of Brainerd. The building will be 48 feet by 125 feet in size, and will cost \$50,000.

Dr. Hans Johnson, of Murdock, has purchased the practice of Dr. Atwa Downswell, of Kirkhoven. Dr. Downswell will locate in Minneapolis.

In the absence of the regular delegates and their alternates to the meeting of the A. M. A., Drs. Thos. McDavitt and H. A. Tomlinson represented Minnesota.

The Crow River Valley Medical Society held its 54th meeting at Willmar last month. Drs. Christian Johnson, John C. Jacobs, and J. R. Peterson read papers.

Dr. W. W. Mayo, of Rochester, has returned from his trip to Japan. He was royally treated in that country, and comes home filled with admiration for the Japanese.

Dr. J. H. Graham, who has been practicing a few months at Grafton, N. D., has gone to Armington, Mont., to take charge of a hospital at that place. Dr. A. Gallant succeeds him at Grafton.

Dr. Clara Seipple, of Chicago, has been appointed second assistant physician of the State Asylum at Jamestown, N. D. The new first assistant is Dr. H. W. Miller, of the N. D. Hospital at Missoula.

The people of St. James are raising money by subscription to purchase the old City Hotel building for a hospital, which is much needed in St. James. The movement is popular, and will no doubt succeed.

Dr. Paul Sorkness, of Fargo, N. D., was elected vice-president of the Lutheran Hospital Association of Fargo, at the annual meeting last month. It is intended to complete the new hospital building by October 1.

At the annual meeting of the Freeborn County Society, the following officers were elected: President, Dr. G. W. Barck; vice-president, Dr. W. L. Palmer; secretary, Dr. O. E. Rodli; treasurer, Dr. J. P. von Berg, all of Albert Lea.

Dr. L. L. Henninger, of Blue Earth, has sold his practice to Dr. F. D. Boyd, of Redwood Falls, and will retire from general practice. He will spend a year in New York and London in eye, ear, nose, and throat work, and take a position in Omaha, Neb., which is open to him.

The regular midsummer meeting of the Southwestern Minnesota Medical Society will be held at Windom on Thursday, July 11, at 3 p. m. The following papers will be read: "Puerperal Eclampsia," by W. E. Richardson; "Hypodermoclysis in Post-partum Hemorrhage," by C. P. Dolan; "Puerperal Sepsis," by V. I. Miller; "Raynaud's Disease," by L. Sogge; "The Treatment of the Tuberculous," by L. A. Dickman; "Opsonins and the Opsonic Index, a Resume," by G. G. Balcom; "A Case for Diagnosis," by Ray Humiston; "Penetrating Wound of Both Lungs, Including Mediastinum," by N. J. Nessa; "Surgery in Europe as Compared with That of the United States," by H. Wiedow; "Medical Reminiscences," by E. M. Carr. A cordial invitation is extended to members of the profession in surrounding territory.—EMIL KING, M. D., Secretary.

FOR SALE

To save storage, I offer a good bargain on immediate sale of the following: Static machine and x-ray outfit, operating chair and table desk, surgical instruments, medicine case and pocket instrument case, any one or all together, with other items. Ready for immediate shipment or delivery. Address Dr. E. J. Roberts, 1506 Third avenue south, Minneapolis, Minn. Telephone, T. S., 9743.

FOR SALE

A practice of \$4,000 in a town of 1,600 inhabitants, mostly Scandinavians and Germans. A good farming country. A saw-mill gives employment to 150 men. Office furniture, instruments, and appliances, valued at \$1,200. Will be sold for \$700, including practice. Address A. N., care of this office.

A GOOD OPENING

A well-known physician who has practiced

for over twenty-five years in one of the wealthiest agricultural counties in Minnesota, finds it necessary to go south with his family to reside permanently. He wishes to correspond with some good active man with a view to selling or renting his residence property, located in a progressive town of over 1,000, mostly German and Scandinavian. The goodwill of the practice goes with the property, whether sold or rented. Address F., care of this office.

FOR SALE

A twenty-four plate Birtman static machine and all apparatus for giving x-ray and static current treatments. Two x-ray tubes, very little used; 1/4 H.P. motor, five-speed controller, oxygen generator, insulated platform. All are in first-class condition. Machine without controller and motor, \$140; with both, \$175. Address D., care of this office.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH
OF MINNESOTA FOR THE MONTH OF MAY, 1907

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF MAY, 1907

STATE INSTITUTIONS.	Total Deaths of													
	Lungs	Other Forms of Tuberculosis	Pneumonia	Bronehitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Diseases of Children	Puerperal	Cancer
Fergus Falls, Hospital for Insane.....	11	2	1	1	1	1	1	1	1	1	1	1	1	1
Rochester, Hospital for Insane.....	6	1	1	1	1	1	1	1	1	1	1	1	1	1
St. Peter, Hospital for Insane.....	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Anoka, Asylum.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hastings, Asylum.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Faribault, School for Deaf.....	6	1	1	1	1	1	1	1	1	1	1	1	1	1
Faribault, School for Blind.....	6	1	1	1	1	1	1	1	1	1	1	1	1	1
Faribault, School for Feeble Minded.....	5	4	1	1	1	1	1	1	1	1	1	1	1	1
Owatonna, School for Dependents.....	9	1	1	1	1	1	1	1	1	1	1	1	1	1
Stillwater, State Prison.....	9	1	1	1	1	1	1	1	1	1	1	1	1	1
St. Cloud, State Reformatory.....	9	1	1	1	1	1	1	1	1	1	1	1	1	1
Red Wing, State Training School.....	9	1	1	1	1	1	1	1	1	1	1	1	1	1
Minneapolis, Soldiers' Home.....	3	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals.....	43	8	1	1	1	1	1	1	1	1	1	1	1	1

*No report received

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF MAY, 1907

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Albert Lea.....	4,500	5,657	3			2											
Anoka.....	3,769	4,053	7	2								1					1
Austin.....	5,474	6,489	1														
Barnesville.....	1,326	1,566	*														
Bemidji.....	2,183	3,800	1														
Blue Earth.....	2,900	2,364	1					1									
Brainerd.....	7,524	8,134	12			3											
Chaska.....	2,165	2,085	*														
Chatfield.....	1,426	1,300	*														
Cloquet.....	3,074	6,117	*														
Crookston.....	5,359	6,794	7			1	2										1
Detroit.....	2,060	2,149	0														
Duluth.....	52,968	64,942	91	10	2	15		6	1				1	2	1		6
E. Grand Forks.....	2,077	2,489	8	2													
Ely.....	3,712	4,045	8	1		1							1		1		
Eveleth.....	2,752	5,332	3														
Faribault.....	7,868	8,279	1														
Fairmont.....	3,440	2,955	6			1											
Fergus Falls.....	6,072	6,692	5			3											1
Granite Falls.....	1,214	1,340	*														
Hastings.....	3,811	3,810	1														
Hutchinson.....	2,495	2,489	0														
Jordan.....	1,270	1,311	3														
Lake City.....	2,744	2,877	10	2		2									1		
Litchfield.....	2,280	2,415	1		1												
Little Falls.....	5,774	5,856	1														
Luverne.....	2,223	2,272	1														
Le Sueur.....	1,937	1,842	1	1													
Madison.....	1,336	1,604	20														1
Mankato.....	10,559	10,996	5	4	1	3											
Marshall.....	2,088	2,243	*														
Melrose.....	1,768	2,151	34														
Minneapolis.....	202,718	261,974	289	34	4	34	7	1	3			2	11	8	5		14
Montgomery.....	979	1,281	2														
Montevideo.....	2,146	2,595	9			3					1						1
Moorhead.....	3,730	4,794	0														
Morris.....	1,934	2,003	3			2											
New Prague.....	1,228	1,419	5	1		1	1										
New Ulm.....	5,403	5,720	5	1													
Northfield.....	3,210	3,438	0														
Ortonville.....	1,247	1,612	6		1			1		1							
Owatonna.....	5,561	5,651	*														
Pipestone.....	2,536	2,885	1	1													
Red Lake Falls.....	1,885	1,797	11			1											1
Red Wing.....	7,525	8,149	*														
Redwood Falls.....	1,661	1,806	1														
Renville.....	1,075	1,229	1			1											
Rochester.....	6,843	7,233	11														1
Rushford.....	1,100	1,133	1														
St. Charles.....	1,304	1,238	0														
St. Cloud.....	8,663	9,422	9			1					1			1			
St. James.....	2,607	2,320	0														
St. Paul.....	163,632	197,323	171	16	6	17		5	1	1				4	3	1	7
St. Peter.....	4,302	4,514	4														
Sauk Centre.....	2,220	2,463	2														
Shakopee.....	2,046	2,069	0														
Sleepy Eye.....	2,046	2,312	0														
So. St. Paul.....	2,322	3,458	1			1											
Stillwater.....	12,318	12,435	11	1		1	1										
Thief River Falls.....	1,819	3,502	0														
Tower.....	1,366	1,340	0														
Tracy.....	1,911	2,015	1	1													1
Virginia.....	2,962	6,056	*														
Wabasha.....	2,528	2,619	2														
Warren.....	1,276	1,640	*			1											
Waseca.....	3,103	2,838	0														
Waterville.....	1,260	1,383	0														
West St. Paul.....	1,830	2,100	0														
Willmar.....	3,409	4,040	2														
Windom.....	1,944	1,884	3														1
Winona.....	19,714	20,334	29	2	1	5	1					1			1	1	
Worthington.....	2,386	2,276	2		1			1									

*No report received Health officer not doing his duty

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF MAY, 1907

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Ada.....	1,253	1,515	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Adrian.....	1,258	1,184	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aitkin.....	1,719	1,896	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Akeley.....		1,636	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Alexandria.....	2,681	3,051	3	2	1	1	..	..	..	..	..	..	..	..	..	..	..
Appleton.....	1,184	1,321	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Belle Plaine.....	1,121	1,301	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Benson.....	1,525	1,766	3	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Breckenridge.....	1,282	1,850	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Buffalo.....	1,040	1,124	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Caledonia.....	1,175	1,405	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Canby.....	1,100	1,505	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cannon Falls.....	1,239	1,460	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Cass Lake.....	546	1,062	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chisholm.....		4,231	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dawson.....	962	1,056	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Delano.....	967	1,023	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fosston.....	864	1,000	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Frazee.....	1,000	1,146	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Glencoe.....	1,780	1,805	3	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Glenwood.....	1,116	1,718	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Graceville.....	856	1,032	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grand Rapids.....	1,428	2,055	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hallock.....	805	1,014	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hibbing.....	2,481	6,566	23	3	..	3	..	..	..	..	..	..	..	..	..	..	..
Jackson.....	1,756	1,776	1	..	..	..	..	..	1	..	..	..	..	1	2	..	..
Janesville.....	1,254	1,205	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kasson.....	1,112	1,049	2	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Kenyon.....	1,202	1,252	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Crystal.....	1,215	1,231	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lanesboro.....	1,102	1,041	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Long Prairie.....	1,385	1,256	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madelia.....	1,272	1,290	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Milaca.....	1,204	1,319	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Mountain Lake.....	959	1,063	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Mankato.....	939	1,129	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North St. Paul.....	1,110	1,400	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Olivia.....	970	1,019	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Osakis.....	917	1,056	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Park Rapids.....	1,313	1,719	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pelican Rapids.....	1,033	1,095	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Perham.....	1,182	1,366	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pine City.....	993	1,092	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Plainview.....	1,038	1,140	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Preston.....	1,278	1,320	4	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Princeton.....	1,319	1,704	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rush City.....	987	1,041	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rushford.....	1,062	1,040	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Louis Park.....	1,325	1,491	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sandstone.....	1,189	1,589	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Saulk Rapids.....	1,391	1,552	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Scanlon.....		1,122	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Stillwater.....	1,422	1,572	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Springfield.....	1,511	1,546	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Spring Valley.....	1,770	1,573	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Staples.....	1,504	2,163	4	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Two Harbors.....	3,278	4,402	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wadena.....	1,520	1,868	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wells.....	2,017	1,814	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Minneapolis.....	2,250	2,530	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wheaton.....	1,132	1,346	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
White Bear Lake.....	1,288	1,724	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winnebago City.....	1,816	1,553	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winthrop.....	813	1,031	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Zumbrota.....	1,119	1,129	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
State Institutions.....			43	8	..	1	..	..	..	..	..	..	..	1	..	..	..
Other parts of State.....	1,012,328	1,085,886	379	33	5	36	5	7	..	6	1	4	2	5	11	4	10
Total for State.....	1,751,395	1,979,658	1290	65	25	155	19	22	7	9	2	8	15	27	27	7	48

Still births and premature births, 81 (not included in above totals).

*No report received. Health officer not doing his duty

OFFICIAL ORGAN OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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JULY 15, 1907

No. 32

TRANSACTIONS OF THE SOUTH DAKOTA STATE MEDICAL
ASSOCIATION

TWENTY-SIXTH ANNUAL MEETING

1907

OFFICERS AND COMMITTEES—1907

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EDWIN T. RAMSEY, M. D.....Clark

FIRST VICE-PRESIDENT

GRANVILLE J. COLLIER, M. D.....Brookings

SECOND VICE-PRESIDENT

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SECRETARY-TREASURER

ROBERT D. ALWAY, M. D.....Aberdeen

MEMBER OF THE HOUSE OF DELEGATES OF THE

A. M. A. ASSOCIATION

WM. GARDNER SMITH, M. D.....Sturgis

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Secretary Mitchell

DANIEL GEIB, M. D.....Groton

EDWIN T. RAMSEY, M. D.....Clark

DANIEL L. SCANLAN, M. D.....Volga

HERSCHEL H. STONER, M. D.....Highmore

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COMMITTEE ON PUBLICATION

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ALFRED G. ALLEN, M. D.....Deadwood

JAMES L. STEWART, M. D.....Irene

THE SECRETARYEx-Officio

Proceedings

OF THE

House of Delegates

TUESDAY, MAY 28, 2907

The House of Delegates convened at the Cataract Hotel at 10:30 p. m., and was called to order by the President, Dr. E. T. Ramsey.

On call of the roll by the Secretary the following delegates and officers responded:

President—E. T. Ramsey, Clark.

Second District—C. S. O'Toole, Vienna; E. T. Ramsey, Clark.

Fourth District—C. J. Lavery, Fort Pierre.

Fifth District—A. E. Clough, Madison; F. H. Files, Madison.

Seventh District—C. F. Culver, Sioux Falls.

Eighth District—S. M. Hohf, Yankton.

On motion of Dr. Alway, alternate councillors were appointed for Districts Number One and Four.

On motion of Dr. Alway, Dr. Mallery was appointed alternate for District Number One.

On motion of Dr. Lavery, Dr. W. H. Lane was appointed as alternate for District Number Four.

It was moved by Dr. Files of Madison, seconded by Dr. Culver of Sioux Falls, and carried, that the President appoint a committee on nominations. The President appointed the following on the nominating committee: C. B. Mallery, Aberdeen; C. S. O'Toole, Vienna; E. C. Miller, Brookings; C. J. Lavery, Fort Pierre; A. E. Clough, Madison; F. W. Freyberg, Mitchell; O. O. Sawyer, Dell Rapids; S. M. Hohf, Yankton, and W. J. Smith, Sturgis.

The meeting adjourned to meet at 11:30 a. m., May 29th.

WEDNESDAY, 11:30 a. m., MAY 29th

The House of Delegates was called to order by the President, Dr. E. T. Ramsey, at Elks Hall.

On the call of the roll the following delegates responded:

First District—C. B. Mallery, Aberdeen; F. M. Crain, Redfield.

Second District—E. T. Ramsey, Clark; C. S. O'Toole, Vienna.

Third District—D. L. Scanlon, Volga; H. Denman, DeSmet.

Fourth District—W. H. Lane, Miller; C. J. Lavery, Fort Pierre.

Fifth District—A. E. Clough, Madison; F. H. Files, Madison.

Sixth District—F. W. Freyberg, Mitchell; R. C. Warne, Mitchell.

Seventh District—C. F. Culver, Sioux Falls; O. O. Sawyer, Dell Rapids.

Eighth District—C. C. Gross, Yankton; S. M. Hohf, Yankton.

Ninth District—W. J. Smith, Sturgis.

The Secretary-Treasurer, Dr. R. D. Alway, submitted the following report, showing the general condition of the Association:

REPORT OF THE SECRETARY-TREASURER

To the President and House of Delegates:

According to the By-Laws I herewith submit a brief report of the work of the Secretary for the past year, including the financial status of the Association since June 5th, 1906, at which time the balance in the treasury was forwarded to me by Dr. Wm. Edwards.

The membership has increased the past year a small percentage. Compared with the number of physicians in the state as given in the A. M. A. Directory, about one-half are members of the Association. Out of the nine district societies, five are flourishing and have a good membership; the remaining four are not so flourishing and have not made the growth that they should compared with the number of physicians in their respective districts.

I have had considerable correspondence from the A. M. A. and various state associations, relating to the fees charged for insurance examinations. Seven or eight of the state associations have adopted resolutions similar to those adopted by this Association one year ago, and the majority of the county societies in these states have embodied these resolutions in their by-laws. Four of the district societies in this state have done likewise, and most of the remainder have the subject under discussion, and no doubt before long will follow the example of the others. I have been advised by Dr. Fredrick Green that the subject of insurance fees will be gone into thoroughly at the coming meeting, and every effort will be put forth to get the profession to unite in demanding their rights.

At this meeting the Constitution will be amended to allow of increasing the number of district societies. I have written the councillors in the districts where I thought new societies might be organized, and I presume they will report at this meeting.

The terms of office of the councillors in Districts Nos. 1, 4 and 7, terminate with this meeting, and it will be necessary to elect their successors.

The stenographer we engaged a year ago to report our discussions, made a complete failure. This year, with the advice of the president, I have brought a stenographer with me, so that I shall be able to assist him when he transcribes his notes.

Warrants have been issued for the payment of all accounts, except such small items as postage, express, etc.; these I have paid from my own resources.

Respectfully submitted,

R. D. ALWAY, Secretary.

FINANCIAL STATEMENT

RESOURCES

1906—			
June 5	Cash from Dr. Edwards.....	\$555.77	
Aug. 3	Per capita dues, District No. 1.....	12.00	
14	Per capita dues, District No. 7.....	2.00	
30	Per capita dues, District No. 5.....	4.00	
Sept. 20	Per capita dues, District No. 1.....	2.00	
Oct. 23	Per capita dues, District No. 4.....	12.00	
Nov. 18	Per capita dues, District No. 8.....	6.00	
20	Per capita dues, District No. 7.....	2.00	
Dec. 5	Per capita dues, District No. 9.....	2.00	
18	Per capita dues, District No. 4.....	4.00	

1907—			
Jan. 6	Per capita dues, District No. 4.....	2.00	
6	Per capita dues, District No. 2.....	4.00	
Feb. 7	Per capita dues, District No. 7.....	38.00	
Mch. 20	Per capita dues, District No. 6.....	16.00	
Apl. 1	Per capita dues, District No. 4.....	26.00	
16	Per capita dues, District No. 4.....	6.00	
22	Per capita dues, District No. 9.....	58.00	
23	Per capita dues, District No. 4.....	6.00	
25	Per capita dues, District No. 7.....	4.00	
May 1	Per capita dues, District No. 2.....	48.00	
1	Per capita dues, District No. 8.....	78.00	
17	Per capita dues, District No. 5.....	24.00	
22	Per capita dues, District No. 6.....	80.00	
22	Per capita dues, District No. 1.....	94.00	
23	Per capita dues, District No. 3.....	30.00	
28	Per capita dues, District No. 7.....	18.00	

Total\$1,133.77

DISBURSEMENTS

1906—			
June 10	Warrant No. 1.....	\$5.00	
25	Warrant No. 2.....	5.00	
July 2	Warrant No. 3.....	14.00	
Oct. 13	Warrant No. 4.....	2.50	
18	Warrant No. 5.....	2.00	

1907—			
	Warrant No. 6, not used.		
Jan. 14	Warrant No. 7.....	215.14	
29	Warrant No. 8.....	1.25	
Feb. 13	Warrant No. 9.....	4.00	
Apl. 6	Warrant No. 10.....	3.25	
May 4	Warrant No. 11.....	36.71	
21	Warrant No. 12.....	21.05	
	Balance, cash	823.87	

Total\$1,133.77

Approved.

R. C. WARNE
H. DENMAN
W. G. SMITH

Sioux Falls, May 28, 1907.

South Dakota State Medical Association in account with R. D. Alway.

1906—			
June 5	Freight from Bowdle	\$0.50	
7	Freight and express from Bowdle.....	.95	
11	Express to Dr. Ramsey.....	.35	
11	Postage	2.00	
July 11	Express and stationery.....	1.90	
Sept. 20	Postage	2.00	
27	Express to Dr. Ramsey.....	.25	
27	Postage	1.00	
Oct. 17	Postage	1.00	
Nov. 14	Postage	1.00	
Dec. 12	Postage	1.00	

1907—

Jan. 21	Postage	1.00
24	Postage	1.00
26	Postage	2.00
Feb. 8	Postage	4.00
Mch. 20	Postage	1.00
23	Stenographer	1.00
Apl. 8	Postage	2.00
May 3	Postage	3.00

Total\$26.95

On motion of Dr. Files of Madison the report of the Secretary-Treasurer was accepted and referred to the auditing committee.

The President appointed as such committee Drs. Warne, Mitchell, Smith, Sturgis, and Denman.

It was moved by Drs. Mallery and Crain, and carried, that a warrant be issued to cover the Secretary's salary and bill of expenses.

It was moved by Drs. Mallery and Lavery, and carried, that a warrant be drawn in favor of E. T. Ramsey for expense incurred by the Legislative Committee and attorney's fees.

On motion of Dr. Denman Dr. J. G. Parsons was appointed alternate councillor for the Third District.

The President appointed the following committees:

On resolutions, Drs. Freyberg of Mitchell; Sawyer of Dell Rapids, and Hohf of Yankton.

On necrology, Drs. Crane of Redfield, Lane of Miller, and Files of Madison.

An adjournment was taken to the call of the President.

WEDNESDAY, 5 p. m., MAY 29th.

The House of Delegates was called to order by the President at Elks Hall.

On the call of the roll the following delegates responded:

First District—C. B. Mallery, Aberdeen; F. M. Crain, Redfield.

Second District—E. T. Ramsey, Clark; C. S. O'Toole, Vienna.

Third District—J. G. Parsons, Brookings; H. Denman, DeSmet.

Fourth District—W. H. Lane, Miller; C. J. Lavery, Fort Pierre.

Fifth District—A. E. Clough, Madison; F. H. Files, Madison.

Sixth District—F. W. Freyberg, Mitchell; R. C. Warne, Mitchell.

Seventh District—C. F. Culver, Sioux Falls; O. O. Sawyer, Dell Rapids.

Eighth District—C. C. Gross, Yankton; S. M. Hohf, Yankton.

Ninth District—W. J. Smith, Sturgis.

Dr. E. F. Reamer, chairman of the Legislative Committee, presented the following report:

REPORT OF THE LEGISLATIVE COMMITTEE

Mr. President and Members of the House of Delegates:

As chairman of the Public Policy and Legislative Committee I have the honor to report as follows:

Your committee met in Huron before the assembling of the legislature and went over the situation and what seemed best to ask of the legislature, and agreed that, owing to a recent court decision, our law should be strengthened if possible. An attorney was employed to rewrite Section 21, defining the practice of medicine and surgery, of the Laws of 1903.

Section 10.—LICENSE WITHOUT EXAMINATION REGULATING RECIPROCITY—This amendment passed the House as presented, but in the Senate the section relating to reciprocity only was passed. The bill licensing electricians to treat diseases, introduced by Rep. VanOsdel, was passed by both houses, but with an amendment compelling them to appear before the State Medical Examining Board for license, which practically annuls the bill.

Your chairman, in conjunction with one of the Pure Food Commissioners of the state, had a Sioux Falls attorney draft a bill, modeled upon the national law, regulating the manufacture and sale of foods and medicines within South Dakota. This bill was passed, and becomes a law July 1st, I believe.

The bill creating a special examining board of osteopathic examiners was passed.

Much credit is due Dr. L. P. Michaels, of Gettysburg, who was a member of the House, for his work in securing as much legislation as was granted. It was due to his efforts that the amendment was added compelling the electricians to go before our examining board for license. He also worked conscientiously on behalf of the amendment above referred to and also against other bills detrimental to the physician's interests.

To Dr. D. W. Robinson, of Pierre, the physicians of South Dakota owe much, not only for his creditable work as Superintendent of the State Board of Health, but also for his work and watchfulness in preventing the passage of bills, and for securing the passage of the good ones which have been passed by the legislature for these many sessions. He has been ever ready to devote time and energy in every way possible to assist any bill presented which was to the interests, of not only physicians, but of the people of the state.

Now a word as to the work of a legislative and public policy committee. No one who has not been on such a committee or who has not tried to follow a bill up, knows the amount of work necessary and the constant watchfulness required to get any measure through a legislature.

There are no funds provided to pay a man even his actual expenses in going to the state capital and remaining there to go before the various committees when bills are discussed; then to see members and urge upon them the importance of supporting right measures and rejecting unworthy ones and explain what such bills really are. I do not wish to criticize our recent legislature, for it was as good an average as any, but not one man in five really knows what bills relating to medicine are worthy and what are not, unless they are explained and their merits pointed out. And not until this Association or the medical profession of South Dakota provides some fund to pay a competent man to go to the capital and remain there during the legislative session, shall we as physicians receive our just deserts or get measures through to our best interests. The committee not only bore their own expenses in meeting at Huron and going to Pierre,

but they paid Judge Crowfoot twenty-five dollars from their own pockets to draft an amendment that we knew would stand the test of courts.

Respectfully submitted,

E. F. REAMER, Chairman.

On motion of Dr. Clough the report of the Legislative Committee was accepted.

A motion was made by Drs. Mallery and Freyberg, and carried, that Drs. Reamer and Robinson be reimbursed for the expense they incurred in attending legislative meetings at Huron and Pierre.

On motion by Drs. Files and Crain the amendments to the Constitution and By-Laws were adopted.

On motion of Drs. Freyberg and Mallery the report of the Council on the publication of the transactions was adopted.

The Committee on Necrology made the following report:

REPORT OF THE COMMITTEE ON NECROLOGY

To our knowledge death has dealt kindly with the membership of this Association the past year, only one death having been reported.

Dr. Alexander Grant, of Bath, at the age of 82 years, was summoned, after a protracted illness, to his last resting place on May 9, 1907.

Dr. Grant was one of the pioneer physicians of northern South Dakota, having moved there from Minnesota twenty-five years ago. He was a native of New York State, and a graduate of Pennsylvania University.

Respectfully submitted,

F. M. CRAIN

F. H. FILES

W. H. LANE

On motion of Dr. Crain, the report was accepted.

On motion of Drs. Hohf and Crain, the sum of twenty-five dollars was appropriated to defray the expense of the delegate to the American Medical Association.

A motion was made to adjourn until 8:30 a. m., May 30th.

THURSDAY, 9 a. m., MAY 30th

The House of Delegates was called to order by the President.

On call of the roll by the Secretary the following delegates responded:

First District—C. B. Mallery, Aberdeen; F. M. Crain, Redfield.

Second District—E. T. Ramsey, Clark; C. S. O'Toole, Vienna.

Third District—J. G. Parsons, Brookings; H. Denman, DeSmet.

Fourth District—W. H. Lane, Miller; C. J. Lavery, Fort Pierre.

Fifth District—A. E. Clough, Madison; F. H. Files, Madison.

Sixth District—F. W. Freyberg, Mitchell; R. C. Warne, Mitchell.

Seventh District—C. F. Culver, Sioux Falls; O. O. Sawyer, Dell Rapids.

Eighth District—C. C. Gross, Yankton; S. M. Hohf, Yankton.

Ninth District—W. J. Smith, Sturgis.

Dr. Freyberg presented the following report on resolutions:

REPORT OF COMMITTEE ON RESOLUTIONS

Be it Resolved, That the thanks of the South Dakota Medical Association are hereby tendered to the Sioux Falls Medical Society for the generous and liberal entertainment they have given us.

Resolved, That the thanks of the South Dakota Medical Association are hereby tendered to the Elks Lodge of Sioux Falls for the use of their beautiful and commodious apartments.

Resolved, That the thanks of the South Dakota Medical Association are hereby tendered to Dr. John W. Bell, of Minneapolis; Dr. Van Buren Knott, of Sioux City, Iowa; Dr. W. R. Murray, of Minneapolis, and Dr. J. C. Litzenburg, of Minneapolis, for their very interesting papers and orations, and the part they have taken in the general discussions.

Resolved, That our most sincere thanks are due to Dr. Edwin T. Ramsey, our retiring President, and Dr. R. D. Alway, our Secretary-Treasurer, for their untiring efforts and unselfish actions in their service of the Association in the past year.

On motion of Dr. Crain, the report of the Committee on Resolutions was adopted.

Dr. Denman reported that the Auditing Committee had carefully examined the vouchers and checked them off, and found them correct.

On motion of Dr. Mallery, the report was adopted.

The report of the Committee on Nominations was now presented by the chairman, Dr. Mallery.

REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee met in the parlors of the Cataract Hotel on the evening of May 29th. Those present were Drs. Mallery, Denman, Lavery, Freyberg, Culver, Hohf, and Smith. Dr. Mallery was chosen chairman, and Dr. Culver secretary, and the following gentlemen were nominated:

For the office of President—Dr. L. C. Mead, of the Eighth District; Dr. W. G. Smith, of the Ninth District; Dr. C. B. Mallery, of the First District.

For First Vice-President—Dr. S. A. Brown, of the Seventh District.

For Second Vice-President—Dr. O. R. Wright, of the Fourth District.

For Members of the Board of Councillors—Dr. C. B. Mallery, of the First District; Dr. C. J. Lavery, of the Fourth District; Dr. C. F. Culver, of the Seventh District.

Place of Next Meeting—Yankton, in charge of the Eighth District Medical Society.

The committee adjourned *sine die*.

On motion of Dr. Crain the report was accepted.

On motion of Dr. Mallery, the house proceeded to the election of officers.

Drs. Smith and Mallery declined the nomination for President.

Dr. Crain moved that the rules be suspended and the Secretary be instructed to cast the ballot of the House for Dr. L. C. Mead of Yankton for President of the Association. Carried.

On motion of Dr. Culver, the Secretary was instructed to cast the ballot of the House for Dr. S. A. Brown, of the Seventh District, for First Vice-President. Carried.

On motion of Dr. Lavery, the Secretary was instructed to cast the ballot of the House for Dr. O. R. Wright, of the Fourth District, for Second Vice-President. Carried.

On motion of Dr. Hohf, the Secretary was instructed to cast the ballot of the House for Dr. Mallery, of the First District, Dr. Lavery, of the Fourth District, and Dr. Culver, of the Seventh District, for Councillors for the ensuing three years.

On motion of Dr. Vaughn, the Secretary was instructed to cast the ballot of the House in favor of Yankton as the place of meeting for the year 1908. Carried.

Dr. Alway offered the following resolutions:

Number 1—To the Members of the House of Delegates:

Gentlemen—At a meeting of the eye, ear, nose, and throat specialists last night it was resolved, that,

Whereas, our Association is rapidly growing, and the number of papers presented before it is becoming larger each year, it would further the interests of the medical profession in the state if those engaged in eye, ear, nose, and throat practice, would organize a separate section of said specialists, and we request that your honorable body will consider this resolution and provide a section for that purpose.

It was moved by Dr. Mallery, seconded by Dr. Clough, that a special section be set apart for the specialists in eye, ear, nose and throat diseases. After considerable debate, and after a standing vote was taken the motion was lost.

Number 2—That Section 2 of Chapter 8 of the Constitution and By-Laws shall read as follows:

"The committee on scientific work shall consist of the secretary of each district society and the secretary of the Association, who shall be the chairman, and shall determine the character and scope of the scientific proceedings, etc."

It was moved by Dr. Lavery, seconded by Dr. Reamer, that the resolution on the amendment to the Constitution be received and laid on the table until the next meeting of the Association. Carried.

On motion of Dr. Lavery the Secretary was instructed to print amendments to the Constitution and forward the same to the secretaries of the local societies.

The resignation of Dr. Maytum, of Alexandria, as alternate delegate, was accepted.

It was moved by Dr. Mallery, seconded by Dr. Crain, that Dr. H. J. Rock, of Aberdeen, be

elected as alternate delegate to the expiration of Dr. Maytum's term.

A motion was made to adjourn to 12 o'clock noon.

THURSDAY, 12 m., MAY 30th

The House of Delegates was called to order by the President.

On the call of the roll the following delegates responded:

First District—C. B. Mallery, Aberdeen; F. M. Crain, Redfield.

Second District—E. T. Ramsey, Clark; C. S. O'Toole, Vienna.

Third District—J. G. Parsons, Brookings; H. Denman, DeSmet.

Fourth District—W. H. Lane, Miller; C. J. Lavery, Fort Pierre.

Fifth District—A. E. Clough, Madison; F. H. Files, Madison.

Sixth District—F. W. Freyberg, Mitchell; R. C. Warne, Mitchell.

Seventh District—C. F. Culver, Sioux Falls; O. O. Sawyer, Dell Rapids.

Eighth District—C. C. Gross, Yankton; S. M. Hohf, Yankton.

Ninth District—W. J. Smith, Sturgis.

The Committee on Insurance made their report.

It was moved by Dr. Vaughn, seconded by Dr. Hohf, that this report be accepted.

Drs. Crain and Hohf made substitute motion, viz., that a committee be appointed to draft recommendations to be submitted to the district societies after the annual meeting of the American Medical Association and along the lines they recommend. This committee to consist of five, of whom Dr. Ramsey is the chairman, Dr. Alway secretary, and the other members are Drs. Hohf, Culver and Reamer. Carried.

A motion made to adjourn *sine die*.

PROCEEDINGS OF THE BOARD OF COUNCILLORS

THURSDAY, MAY 30th, 1907—1:30 p. m.

The Council convened in the Elks Hall, and was called to order by the President, Dr. A. E. Clough.

On call of the roll the following delegates responded:

First District—C. B. Mallery, Aberdeen.

Second District—E. T. Ramsey, Clark.

Third District—J. G. Parsons, Brookings.

Fourth District—W. H. Lane, Miller.

Fifth District—A. E. Clough, Madison.

Sixth District—F. W. Freyberg, Mitchell.

Seventh District—C. F. Culver, Sioux Falls.

Eighth District—C. C. Gross, Yankton.

Dr. Freyberg read the proposition of THE NORTHWESTERN LANCET in regard to the printing of the proceedings and transactions of the Association.

Dr. Stokes, of Omaha, Neb., in the interest of the Western Medical Review, made a proposition to publish the proceedings and transactions of the Association.

Moved by Dr. Mallery, seconded by Dr. Freyberg, and carried, that a vote be taken to decide whether the proceedings be published in pamphlet or by some journal. The decision was in favor of a journal.

On motion of Dr. Mallery, seconded by Dr. Scanlon, and carried, the Committee on Publication was instructed to enter into contract with THE NORTHWESTERN LANCET to publish the proceedings and transactions of the Association for one year on the terms made by the Editor, Dr. W. A. Jones, to Dr. Freyberg; also that this Association be represented on the title page of the magazine.

THURSDAY, MAY 30th, 1907—2:30 p. m.

The Board of Councillors was called to order by the President, Dr. Clough, for the purpose of electing officers for the ensuing year.

On motion Dr. Clough was elected President, and Dr. Freyberg Secretary.

On motion the Board adjourned *sine die*.

ROSTER OF THE SOUTH DAKOTA DISTRICT MEDICAL SOCIETIES

ABERDEEN DISTRICT (1) MEDICAL SOCIETY

OFFICERS

President.....Chas. E. McCauley, Aberdeen
Vice-president.....W. M. Edgerton, Faulkton
Secretary.....E. J. Clemons, Aberdeen
Treasurer.....M. C. Johnston, Aberdeen
Delegate.....F. M. Crain, Redfield
Alternate.....D. E. Arnold, Aberdeen
Board of Censors: W. E. Clark, Frederick; H. E. McNutt, Aberdeen; J. D. Jones, Groton.

MEMBERS

Burton A. Adams, Bristoi	J. C. Kettner, Hosmer.
R. D. Alway, Aberdeen.	T. N. Kjerland, Webster.
D. E. Arnold, Aberdeen.	W. A. Kriesel, Milbank.
F. M. Baldwin, Ashton.	C. E. McCauley, Aberdeen.
A. Beil, Selby.	Chas. B. Mallery, Aberdeen
W. E. Clark, Frederick.	J. H. Martin, Summit.
E. Jay Clemons, Aberdeen.	I. J. Mertens, Lebanon.
J. F. D. Cook, Langford.	E. O. Miller, Aberdeen.
G. E. Countryman, Ab'r'd'n.	Frank Miller, Aberdeen.
F. M. Crain, Redfield.	H. H. Miller, Britton.
J. J. Deertz, Northville.	Fred L. Mitchell, Orient.
W. E. Dinsmore, Claremont	Robt. I. Murdy, Aberdeen.
Wm. Edgerton, Faulkton.	E. B. Oliver, Hecla.
Wm. Edwards, Bowdle.	C. O. Olson, Groton.
D. Geib, Groton.	Percy Peabody, Webster.
O. H. Gerdes, Eureka.	Geo. W. Potter, Redfield.
I. L. Harris, Webster.	L. A. Pickering, Warner.
John D. Herman, Conde.	J. P. Rathburn, Faulkton.

H. J. Helman, Webster. H. J. Rock, Aberdeen.
Robert Hill, Ipswich. S. Rosenthal, Java.
M. C. Johnston, Aberdeen. A. A. Sorensen, Summit.
J. D. Jones, Groton. J. R. Thompson, Northville.
R. R. Jones, Britton. O. G. Wicherski, Frankfort
G. G. Kerns, Roscoe.

WATERTOWN DIST. (2) MEDICAL SOCIETY

OFFICERS

President.....F. H. Staley, Clear Lake
Vice-president.....H. H. Clark, Watertown
Secretary-Treasurer.....J. B. Vaughn, Castlewood
Delegate.....C. S. O'Toole, Vienna
Board of Censors: H. W. Sherwood, Doland; S. B. Dickinson, Watertown; C. A. Yates, Clark.

MEMBERS

W. I. Brenner, Willow Lake. N. B. Gearhart, Albee.
F. W. Hess, Estelline.
R. F. Campbell, Watertown. L. G. Hill, Watertown.
M. Christianson, Bryant. H. J. O'Bryan, Watertown.
E. O. Church, Revillo. C. S. O'Toole, Vienna.
H. H. Clark, Watertown. E. T. Ramsey, Clark.
J. H. Crawford, Castlewood. J. E. Schwendener, Bryant.
S. B. Dickinson, Watertown. H. W. Sherwood, Doland.
J. S. Eddy, Henry. F. H. Staley, Clear Lake.
H. M. Finnerud, Watertown. H. A. Tarbell, Watertown.
J. H. Fonger, Gary. J. B. Vaughn, Castlewood.
H. M. Freeburg, Watertown. C. A. Yates, Clark.
O. G. Frink, South Shore.

BROOKINGS DISTRICT (3) MEDICAL SOCIETY

OFFICERS

President.....J. G. Parsons, Brookings
Vice-president.....R. A. Stevens, White
Secretary-Treasurer.....E. C. Miller, Brookings
Delegate.....E. C. Miller, Brookings
Board of Censors: J. G. Parsons, Brookings; B. A. Dyar, DeSmet.

MEMBERS

Jas. S. Bates, Erwin. Geo. Oge, Arlington.
H. Denman, DeSmet. J. G. Parsons, Brookings.
B. A. Dyar, DeSmet. D. L. Scanlon, Volga.
B. T. Green, Brookings. F. H. Schoonmaker, Arlington.
E. H. Grove, Hetland. R. A. Stevens, White.
G. I. Kheiralla, Lake Preston. E. E. Torwick, Volga.
E. C. Miller, Brookings.

HURON DISTRICT (4) MEDICAL SOCIETY

OFFICERS

President.....O. R. Wright, Huron
Vice-president.....Port McWhorter, Miller
Secretary-Treasurer.....Charles J. Lavery, Fort Pierre
Delegate.....Charles J. Lavery, Fort Pierre
Board of Censors: H. H. Stoner, Highmore; I. M. Burnside, Highmore; J. M. Walsh, Fort Pierre.

MEMBERS

I. M. Burnside, Highmore. Port McWhorter, Miller.
F. A. Brink, Pierre. I. A. Milburn, Wessington.
M. E. Cogswell, Hitchcock. Theodore F. Riggs, Oahe.
J. L. Foxton, Huron. D. W. Robinson, Pierre.
Emil Haberman, Bancroft. E. B. Taylor, Huron.
O. M. Hoyt, Pierre. Friede Van Dalsen, Huron.
Wm. H. Lane, Miller. S. R. Wallis, Miller.
Charles J. Lavery, Fort Pierre. I. M. Walsh, Fort Pierre.
O. R. Wright, Huron.

MADISON DISTRICT (5) MEDICAL SOCIETY

OFFICERS

President.....L. J. Hauge, Howard
Vice-president.....F. O. Kaps, Winfred
Secretary-Treasurer.....H. H. Frudenberg, Madison
Delegate.....F. H. Files, Madison
Alternate.....J. F. Garrison, Oldham
Board of Censors: J. F. Barthell, Winfred; J. M. Duff, Madison; F. H. Files, Madison.

MEMBERS

J. F. Barthell, Winfred. H. H. Frudenberg, Madison.
P. D. Bliss, Colton. J. F. Garrison, Oldham.
A. E. Clough, Madison. L. J. Hauge, Howard.
J. W. Duff, Madison. F. O. Kaps, Winfred.
J. L. Edsall, Bradley. H. B. Noble, Howard.
F. H. Files, Madison. F. P. Winkler, Chester.

MITCHELL DISTRICT (6) MEDICAL SOCIETY

OFFICERS

President.....T. B. Smiley, Mt. Vernon
Vice-president.....R. C. Warne, Mitchell
Secretary.....E. F. Reamer, Mitchell
Treasurer.....F. W. Freyberg, Mitchell
Delegate.....G. A. Clauser, Bridgewater
Board of Censors: A. J. Buffalo, Mitchell; O. D. Pherrin, Emery; R. H. Goodrich, Chamberlain.

MEMBERS

John Atkinson, Spencer. G. A. Landmann, Parkston.
W. R. Ball, Mitchell. B. W. LaShier, Armour.
C. S. Bobb, Mitchell. G. W. Launspach, Lake Andes.
B. A. Bobb, Mitchell. I. C. Lawver, Spencer.
G. H. Burleigh, Lane. E. J. Liechty, Corsica.
C. A. Bower, Mitchell. W. J. Maytum, Alexandria.
A. J. Buffalo, Mitchell. Bert Menser, Bridgewater.
G. A. Clauser, Bridgewater. F. M. Newman, Presho.
B. Courshon, Delmont. O. D. Pherrin, Emery.
S. W. Duncan, Chamberlain. E. F. Reamer, Mitchell.
A. H. Daniels, Mitchell. C. O. Reed, Fulton.
J. F. Dustin, Pukwana. G. H. Richards, Wessington Springs.
R. C. Faust, Salem. H. B. Scofield, Parkston.
E. W. Feige, Chicago. H. C. Shouse, Plankinton.
F. W. Freyberg, Mitchell. J. Silberstein, Crow Creek.
E. C. Gauger, Chamberlain. T. B. Smiley, Mt. Vernon.
A. J. Gifford, Alexandria. S. Sprecher, Tripp.
R. H. Goodrich, Chamberlain. F. H. Stewart, Kimball.
J. A. Howard, Ethan. C. H. Swett, Presho.
A. T. Ishkanian, Reliance. Fred Treon, Chamberlain.
H. E. Jenkinson, Wessington Springs. C. V. Templeton, Woonsocket.
E. W. Jones, Mt. Vernon. T. S. Kammerling, Spencer.
T. S. Kammerling, Spencer. R. C. Warne, Mitchell.
F. S. Kidd, Woonsocket. E. N. Wager, Bijou Hills.
T. N. Kirkpatrick, Letcher. J. W. White, Plankinton.

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R. P. Frink, Wagner. C. A. Phillips, Elk Point.
C. C. Gross, Yankton. James Roane, Yankton.
F. N. H. Gyllenhammar, Gayville. W. Rudgers, Yankton.
J. A. Hohf, Gayville. I. B. Saegley, Scotland.
S. M. Hohf, Yankton. I. A. Seapy, Geddes.
Andrew Hyden, Alcester. F. A. Sedlacek, Tyndall.
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BLACK HILLS DISTRICT (9) MEDICAL SOCIETY

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Secretary.....F. E. Ashcroft, Deadwood
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PRESIDENT'S ADDRESS*

BY E. T. RAMSEY, M. D.

CLARK, S. D.

Members of the South Dakota State Medical Association:

In preparing this address to the members of this Association I have endeavored to be brief, so as not to take up the time that should be devoted to the scientific part of the program, that it might not be allowed to suffer. There are a few matters, however, which I would like to bring to your attention.

The present organization of this Association is only about four years old, and we are just at the beginning, but in that short time there has been a marked improvement over the old system. The older members well remember the few who attended the meetings and kept the Association alive previous to its reorgan-

ization, at the Mitchell meeting in 1903, and the apparent lack of interest taken by the profession at large in all things vital to their interest. Since that time the growth in members and the interest taken have steadily increased, and the Association is to be congratulated upon these evidences of useful organization, but still a great deal remains to be done, as at the present time scarcely more than half of the physicians in the state are members of the Association, when practically every legally qualified physician should be enrolled among its members.

Individually, the physician has not been found wanting, but a lack of unity has prevented us from having the influence which we might expect, and if we are to maintain the position to which we are entitled we must be

*Read before the South Dakota State Medical Association, May 29 and 30, 1907.

actively united for the common good. The benefits a physician may reasonably expect to gain by membership in an association of his professional brethren, and by his attendance at their meetings, are largely self-evident, and will be but briefly mentioned. Different members study along different lines, read different books and journals, and have different experiences from which, at the society meetings, they present varied ideas and make suggestions unthought of by those whose experiences have been different. The knowledge which a physician acquires needs readjusting and condensing, and nothing is more effectual for this purpose than the society. Let him present papers or specimens, report cases, or discuss other papers, and he will often find his knowledge incomplete, inaccurate, or, at times, misleading. The more isolated his work, the larger his success, and the greater his self-confidence, the more does he need the refining service of the society. The society makes it easier for the doctor to have a knowledge of his fellow practitioners. These are constantly changing. In methods of work and habits, both personal and professional, each is different from the other. Across the street a man may appear discreditable, but near at hand, he commands respect, and the society brings the practitioner so close to every other physician that he is protected against errors of judgment on first meeting. An atmosphere of kindness, honor, and mutual helpfulness is necessary to the best growth of the general practitioner, and such atmosphere can best be created and sustained by a properly conducted medical society, and in it he will find the stimulus for his best work.

The medical society is a meeting-ground for the exchange of ideas and the experiences of its members, but it must also be an *organization* in the true sense of the word. Its first duty is self-preservation, which duty involves protection from dangers both internal and external. Internal protection includes the maintenance of a high intellectual and moral standard as a requisite for membership and the establishment of such a procedure as will conserve the self-respect and dignity of each individual member. Under external dangers is involved the protection, by the united power of the society, of its individual members against imposters and those who seek to prey upon them.

But an organization must have some other work besides self-preservation. Its chief, and possibly only, reason for existence is the good it can accomplish. The medical society has a twofold obligation: to the profession and to

the public. That the public is ignorant of medical affairs is not due to prejudice, but to a lack of education on the subject. Can we expect the public to keep pace with the advance in medicine when new principles have followed so rapidly that it takes our entire time, and even then we are scarcely able to keep in touch with them? We have allowed the public to be educated by the fakirs and patent-medicine people until we are classed along with them and have then left it to influences outside of the profession to begin their education in the right direction and bring to their notice the glaring medical frauds that have been forced upon them.

The time has come, if we wish for better results, when we must vigorously continue this education of the public and not allow them to keep imbued with the idea that the practice of medicine is shrouded in mystery. They must be educated in matters sanitary and hygienic, and be instilled with the great fact of the preventability of disease, the criminality of carelessness, and the value of care. The tuberculosis campaign, which has been started in many sections of the country, has accomplished untold good, but there are still a great many subjects on which the public are entirely ignorant and on which they must be enlightened, and this enlightenment can come only through the united efforts of the medical profession.

Beside this education, the public has also to be protected from the fakirs and quacks that infest every section of the country and also from the poisonous mixtures put up and sold under the name of patent medicines. This protection can come partly from education through the profession, but, to be effective, it must be assisted by legislative measures, which will not be introduced or put into effect by the legislature without the action of a united profession through energetic and active medical societies or the legislative committees of these societies. And, right here, allow me to say a few words relative to the work that has been done by our present Legislative Committee. In looking over the minutes of this Association for the last few years, I have found that numberless suggestions have been made in regard to laws that should be enacted, and which, of course, have all been referred to the respective legislative committees; but in making these suggestions I have been unable to find where a word has been said as to how these measures were to be put through or where a single dollar has been appropriated to meet the expenses necessary to have these bills drawn up and presented to

the legislature. Without funds it is impossible to do effective work in this respect. Are the men who are appointed to this committee expected to pay these expenses out of their own pockets when the work is for our common good? I believe they are doing all that can be reasonably expected when they devote their time, to their own disadvantage and loss, and I also believe that this Association should make a sufficient appropriation to enable this committee to carry on its work effectively, and increase the per capita tax from each district, if necessary, to meet the expense of this most urgent work.

Since our last annual meeting, our state medical law received, as it were, a black eye in one of the district courts of the state, and the Legislative Committee got together to see what could be done to make the law more effective. At this meeting it was decided to employ an attorney to draw up an amendment to the old law that would fully cover any point which might come up. The Committee thought best to employ the attorney who had successfully defended the party against whom the action was brought, for it was thought that he would be in a good position to know the defects in the law, and being a good constitutional lawyer, that he would be able to draw up an amendment that would be effective. This amendment was introduced into the legislature, but failed to pass. When the amendment was finally disposed of, it was found that our time was entirely taken up and that there was no time left to introduce anything further.

In connection with this medical-practice act, there is one thing I believe which should be incorporated in the law, and that is in regard to the appointment of members to the State Board of Medical Examiners and also to the State Board of Health. The State Pharmaceutical and Dental Associations recommend the appointment of members to their respective boards, but the physicians of the state have no voice whatever in the appointment of the medical boards, which are much more vital to the welfare of the general public. What other class or society is in an equal position to judge the capability or know the qualifications of the physicians of the state with this Association, composed, as it is, of the leading men of the profession? I think it is a disgrace to the profession of the state that these appointments, which are so important, should be left to the recommendation of persons who have a little political influence with the leaders of the party in control of the state government.

Beside the question of regulating the practice of medicine, there are other things which

affect the general public possibly more than this, and which should be brought forward and actively supported by the physicians of the state. Among the legislative measures that we should be instrumental in introducing are a pure food law, which should be carefully prepared so as not to contain any of the objectionable features of any of the food laws which are in force in the different states; a law controlling the sale of so-called patent medicines; and one which I believe would do the public more good than either of these, a law stopping the advertisement of these nostrums in the papers of the country, and this law would aid immeasurably in controlling their sale. U. S. Senator W. B. Heyburn, of Idaho, in an address before the committee on medical legislation of the American Medical Association, said: "I think it would be just as legitimate for a newspaper to carry an advertisement saying that we handle the finest line of bombs that can be manufactured, warranted to bring death and destruction in every instance, without fail. I would regard that just as legitimate as the advertisement of many of these manufactures, especially those for children and helpless people who have no voice in saying whether they will take them or not, but who must receive them when given to them."

Before bringing this address to a close I would like to mention the question of old-line life insurance and also the publishing the proceedings of the Association. At the last meeting, THE NORTHWESTERN LANCET, through its editor, Dr. W. A. Jones, made a proposition to publish the proceedings and papers of the State Association and also those of the district societies, making THE LANCET the official organ of the Association. This question has been before the Association for a number of years, but the idea of the members was to have a journal published and owned by the Association. The latter appears to me to be out of the question for some time to come, as our finances will not allow of the great expense which would be connected with such a venture. Under these circumstances the most feasible plan seems to be the one offered by THE LANCET. This matter was referred to the Council to report upon at this meeting, and if the proposition is favorably reported upon and accepted, we shall receive an up-to-date journal, twice a month, containing the best thought of the leading men of the Northwest, besides the transactions and papers of our own State Association and district societies.

The question of fees for making examinations for the old-line life insurance companies

was also discussed a year ago, and a resolution was adopted requesting the district societies to take some action. Action was taken by most of the societies, but owing to a lack of unity for which the profession has been noted in the past, nothing definite has been accomplished, for there seem to be in every district members who do not care to abide by the action of the society and will of the majority, but who apparently prefer to stick to the companies to the detriment of themselves and the rest of the profession. This action on their part seems to me a mistake. At the recent investigation of the old-line companies it was found that the medical departments were the only ones which had not been corrupted, yet, on the plea of economy, the examiners were made to suffer for the corrupt practices of the other departments. The examiners' fees were cut 40 per cent, while the largest reduction made from any other branch was just half this amount. The cause for this cut in the fees is placed to the present New York insur-

ance law, which, the companies claim, makes it impossible for them to pay any higher fee, but still other good companies continue to do business under that law and also continue to pay the old schedule of fees. In discussing this question with well posted insurance men and agents who are not prejudiced, they all agree that the explanation offered is a blind. They also say that if the physicians continue to make examinations at a reduced fee for some companies that it will be only a short time when we shall be compelled to accept the reduced fee from the other companies. From what I have learned on this matter it appears to me that if we are to take any stand in this matter now is the time to do it, and that if it is possible to make any forcible move in the matter now is the time to move.

In closing, I wish to thank the members of the Association for the honor they conferred on me by electing me to its presidency and also for the hearty support I have received during the year.

ORATION IN MEDICINE

THE DIAGNOSIS AND TREATMENT OF GASTRIC ULCER*

BY JOHN W. BELL, M. D.

MINNEAPOLIS

Clinically, gastric ulcer is met with in two forms: (1) the acute, non-indurated ulcer; (2) the chronic, indurated ulcer.

The treatment of the first form, acute ulcer, belongs to the internist, with the exception of cases characterized by severe and uncontrollable hemorrhage and cases of acute perforation. The treatment of chronic, indurated ulcer belongs, with but few exceptions, to the surgeon, consequently the internist should promptly refer all such cases to the skilled surgeon for operation.

Diagnosis.—In a typical case of gastric ulcer three important diagnostic symptoms are present. In their order of evolution, they are hyperchlorhydria, pain, and vomiting of blood or its presence in the feces, visible or occult.

Hyperchlorhydria is present, with few exceptions, in acute ulcer and in a large percentage of all cases of chronic ulcer; however, the frequency of this form of nervous dyspepsia, hyperchlorhydria, necessitates great care in estimating the diagnostic value of this sign.

Ulcer pain is usually localized, increased by

pressure and also by food, and appears to the sufferer to extend to the back at about the level of the eleventh left interspace. The pain is often periodic, severe for a few days, followed by a variable period of less discomfort. Ulcer pain is usually aggravated by food, depending largely as to time of appearance and severity on the location of the ulcer; relief usually follows vomiting. During the time the stomach is presumably empty, patients frequently complain of a gnawing, burning discomfort evidently due to the irritant action of the hyperacid contents on the ulcer.

Vomiting of blood, or its presence in visible amount in the stools, occurs in fully 55 per cent of all cases of gastric ulcer, less frequently in duodenal ulcer, and also less frequently in children than in adults. On the appearance of hematemesis the clinician instinctively thinks of ulcer, cirrhosis of the liver, or chronic heart disease. All open ulcers bleed, consequently blood, visible or occult, is present in every case. Its detection rests entirely with the clinician. The detection of occult blood by means of the Weber test requires care in eliminating all food sources

*Read before the South Dakota State Medical Association, May 29 and 30, 1907.

of contamination, especially the use of meat and the use of iron. Occult blood is not constantly present, consequently the tests must cover a considerable period of time in order to exclude ulcer.

While hematemesis is named third in the list of important diagnostic signs, designating them in their usual order of evolution, it by no means follows that hemorrhage is always late in its appearance; on the contrary, in a considerable number of cases it is the first direct evidence we have of an open ulcer. It therefore follows that a definite diagnosis of gastric ulcer, especially the non-indurated ulcer, rests almost entirely on the finding of blood, visible or occult, in the gastric contents or feces.

The clinical course of chronic ulcer is frequently marked by periods of latency, during which but few symptoms of impaired digestion remain, followed, sooner or later, by an exacerbation of symptoms pointing to a recurrence of the ulceration or the formation of a new ulcer. Duodenal ulcer, limited as a rule to the first part of the duodenum, occurring in the proportion of one to two of gastric ulcer, gives rise to the same group of symptoms, with the exception that hemorrhage is manifested by way of the bowels rather than the stomach. Either gastric or duodenal ulcer may lead to pyloric stenosis, which condition will in time give rise to gastric dilatation with food retention.

The diagnosis of gastric ulcer in a given case is based on the correct interpretation of a carefully elicited history, and the presence of visible or occult blood, or, in the absence of blood, on the presence of localized pain, tenderness, and hyperchlorhydria.

Differential Diagnosis.—No careful observer will deny that gastric and duodenal ulcers are frequently overlooked; also that many patients are given the ulcer cure, and not a few subjected to operation, under the erroneous belief that they are suffering from ulcer. The unfortunate error of mistaking a simple hyperchlorhydria, in a neurotic individual, for ulcer and subjecting the patient to the ulcer cure or an operation, is an error greatly to be deplored. In the differential diagnosis of gastric ulcer four diseased conditions must be constantly borne in mind by the clinician: cholelithiasis, hyperchlorhydria, gastric cancer, and intercostal neuralgia. Cholelithiasis presents many symptoms in common with gastric ulcer, such as pain, vomiting, and dyspeptic symptoms. Pain in cholelithiasis is sudden of onset. Beginning at mid-epigastrium it radiates to the right costal arch and scapular region. It is severe, lancinating in character, and bears no relation to the taking of food, frequently appearing toward morning.

The following case, recently under my care and

later operated upon, will serve to illustrate the more important differential features of ulcer and cholelithiasis.

G. H. K., drug clerk, aged 31, single, temperate. Father died of tuberculosis; mother of pneumonia; one brother in good health. Had measles in early life; pneumonia in 1900.

Present illness began suddenly April 15, 1906, one hour after dinner, with pain over mid-epigastrium and feeling of distention, followed in a half hour by vomiting, giving relief from acute pain, followed by discomfort and lameness over region of gall-bladder and liver. September, 1906, second sudden attack of pain, localized at first to mid-epigastrium; later radiating to right costal arch and scapular region.

Third attack, May 1, 1907, appeared five hours after eating, over mid-epigastrium, later radiating to right costal arch and scapular region; pain and distention relieved one hour later by vomiting, followed by discomfort and lameness over gall-bladder region, still evident when he consulted me three days later.

On examination, May 4, 1907, I found a well-nourished individual, free from jaundice and pallor. Examination of stomach-contents disclosed slight increase of hydrochloric acid, digestion practically normal. Examination of abdomen revealed slight rigidity of right rectus, tenderness on palpation, and percussion over gall-bladder.

Diagnosis.—Gall-stones; operation advised.

May 17, the patient was operated upon. Many small stones removed; no evidence of ulcer present.

The diagnosis of gall-stones in this case was based on the sudden onset of the several attacks of pain, the mid-epigastric location of the pain, and radiation upward to the right; partial relief from vomiting, followed in each instance by a few days of discomfort or lameness over region of gall-bladder; absence of hyperchlorhydria, and comparative freedom from dyspeptic symptoms between attacks. A diagnosis of gastric ulcer had been made in this case, and the usual medical treatment recommended.

Hyperchlorhydria is the most frequent form of nervous dyspepsia, and is especially frequent in the neurotic and nervously worn portion of our population. It presents many symptoms in common with gastric ulcer, and not infrequently mimics it in its clinical course. Intercostal neuralgia, frequently associated with hyperchlorhydria, especially in neurotic women, tends to add to the confusion.

Hyperchlorhydria is met with in neurotics, especially women and nervously over-taxed men, between eighteen and fifty years of age. It is characterized by gastric discomfort after meals,

consisting of weight and distention, followed later by a burning, gnawing pain (occasionally cardio-spasm), and a train of vague, nervous symptoms, often including tenderness over one or more of the lower intercostal nerve trunks. Examination of the stomach-contents reveals increased secretion of hydrochloric acid, and delayed digestion, especially of the hydrocarbons. These patients are usually thin and constipated, with appetites far in excess of their digestive powers. An accurate diagnosis in pronounced cases of hyperchlorhydria, without careful investigation and prolonged observation, is absolutely impossible in some cases.

The following case, referred as a case of undoubted ulcer, illustrates some of the difficulties met with in the differential diagnosis of gastric ulcer and hyperchlorhydria.

S. M., female, aged 19. Father in good health; mother neurotic and a sufferer from chronic indigestion. Had measles and smallpox in early life, and frequent attacks of acute indigestion in later life. Present illness began about March 1, 1907, with pain over epigastric region, radiating to the right along the course of the ninth and tenth right intercostal nerve trunks well toward the spine. Constant complaint of fullness and weight after meals, followed by dull, burning pain three or four hours later. Complained of constipation, dull headache, sleeplessness, and extreme nervousness.

Present condition: Slight emaciation; pale, sallow skin; diffuse epigastric tenderness, with distinct tenderness and pain on pressure over ninth and tenth right intercostal nerve trunks. Examination of stomach-contents revealed 0.4 per cent of hydrochloric acid and delayed digestion of starches.

The history, the diffuse epigastric tenderness, and characteristic points of tenderness along the course of the lower, right intercostal nerve trunks, the marked hyperchlorhydria, and the extreme nervousness, with the absence of localized epigastric pain and tenderness, absence of blood, visible or occult, led me, after three days' observation, to exclude ulcer in favor of hyperchlorhydria, and institute treatment accordingly, with the result of a gain of eight pounds in weight during the four weeks ending May 26, 1907.

Intercostal neuralgia, functional in character, is an extremely common difficulty in the Northwest during the rigorous winter and spring months, especially in individuals below par nervously. During the last few months I have had two cases of persistent intercostal neuralgia, each referred by a careful surgeon, after exploration of the gall-bladder and stomach, with negative results. No physical examination should be considered complete where pain is a symptom with-

out a careful search for painful points along the course of the intercostal nerves.

Gastric cancer presents difficulties in diagnosis, owing to the fact that cancer is frequently engrafted on an ulcer base. When this occurs, the history and clinical course is suggestive; a change occurs in the character of the pain, from an acute paroxysmal to a more dull, constant pain; emaciation, cachexia, and a palpable tumor soon become manifest. It is well to bear in mind that an ulcer may cause thickening and induration of the stomach-wall and of the pylorus, sufficient to give rise to a palpable tumor, presenting all the palpable characteristics of a carcinomatous tumor. I distinctly recall the case of a retired farmer, living in a small town in Minnesota, who had suffered from chronic gastric ulcer for several years, during which time he had vomited blood on two occasions. Four weeks prior to my visit, a third hemorrhage occurred, followed by marked weakness and loss of flesh and apparent cachexia. On palpation an oval, hard, indurated mass could be distinctly felt, occupying the region of the pylorus, which the attending physician assured me had rapidly increased in size the last few weeks. With the assurance of recent rapid increase in the size of the tumor mass, evident loss of flesh, and beginning cachexia, I expressed the opinion to the family that carcinoma had become engrafted on the ulcer base, and that prompt surgical interference was the only hope of relief. The patient refused to even consider operation, and I heard nothing farther from the case until four years later, when the son consulted me relative to a functional digestive difficulty, and, much to my surprise, informed me that his father, whom I supposed dead, continued quite comfortable as long as he was guarded in respect to his diet. From the erratic clinical course of gastric ulcer, it is obvious that a correct diagnosis is possible only by careful observation and study, except in cases accompanied by frank hemorrhage.

Treatment.—In the medical treatment of gastric ulcer we should keep constantly before us the fact that there is no specific, and that the ulcer heals through the power of repair in the body, aided by complete rest of the organ involved. The therapeutic indications are (1) absolute rest of body and stomach; (2) careful feeding, rectal and gastric; (3) treatment of symptoms and complications.

Rest, first suggested by Brinton, and later emphasized by Leube, is the first essential. A patient suffering from gastric ulcer should be put to bed, and absolute rest enjoined for a period of from two to four weeks, or until such time as the characteristic pain and discomfort consequent upon the taking of suitable liquid food

shall no longer appear. The rest-cure for ulcer does not mean the strict isolation required in the more severe forms of neurasthenia. In most instances these patients may see their friends, and may be entertained by reading. During this time they should receive daily alcohol sponge-baths, and guarded massage to the arms, legs, and back, with the view of improving their general condition. In addition to this general bodily rest in bed, complete local rest for the stomach is an absolute necessity, for a period of from ten to fourteen days, depending somewhat upon the severity of the case. During this period nothing but water should be swallowed. Should thirst be especially troublesome water may be given in the form of saline enemata.

Before commencing rectal feeding, the colon should be cleared by high lavage, using two or three quarts of warm normal saline solution, repeated each morning thereafter before using the first of the three daily nutritive enemata. One-half hour after thorough clearing of the bowel, the regular nutritive enema should be given, and repeated every six hours, the third and last one for the day to be given not later than 9 p. m. The nutritive enema should not exceed six ounces, consisting preferably of five ounces of milk and one egg, both to be thoroughly peptonized, which means at least two hours of predigestion before using. Immediately before using, add two teaspoonfuls of somatose, or some other peptone, and a half teaspoonful of salt, also alcohol if indicated. If the enemata are not well born, or if the rectum becomes irritable, codein or opium, in small doses, may be added with advantage. A small amount of the normal saline solution, used each morning to clear the bowel, is absorbed, which tends to diminish thirst, but it is often necessary to inject from eight to ten ounces into the bowel two hours after the evening nutritive enema, in order to lessen thirst. During this time calcined magnesia, milk of magnesia, or Carlsbad salts may be used to gently regulate the bowels and lessen acidity.

Rectal feeding should be continued at least two weeks, at the end of which time, provided the local tenderness and pain have largely disappeared, a small quantity of thoroughly cooked oatmeal gruel, previously strained, may be cautiously given by the stomach, or a small amount of cream and Vichy, in the proportion of one to three, may be given once in twelve hours, gradually increasing the amount as well as the frequency of feeding from day to day, later adding egg albumen, eggs, beef juice, and well cooked cereals. As we increase the gastric feeding we decrease the rectal feeding. For weeks, extreme care should be used in the selection of food, adding only one additional article of food at a meal,

in order that we may know the offending article of food, if gastric discomfort follows.

I have purposely omitted milk, peptonized or raw, from the list of foods suitable for gastric feeding in the early weeks of the treatment of acute ulcer. I am convinced that milk is a much over-rated food in all gastro-intestinal disorders, and is by no means the ideal food in cases of acute ulcer. While milk is an innocent fluid outside the stomach, it soon becomes a solid in these usually hyperacid stomachs, often being promptly returned in the form of a tough curd. If milk is used it should be thoroughly peptonized and slowly sipped with a spoon. In a certain percentage of cases, marked by extreme hyperacidity, alkalis are indicated, to neutralize the excess of hydrochloric acid and to relieve the pain and gastric discomfort.

Hemorrhage is often the first definite indication that a patient has of an ulcer, and when the amount of blood lost is not excessive, a period of absolute rest of body and stomach, aided by bits of ice internally and the ice-bag externally, usually suffices to control it. If the hemorrhage is severe, morphine, in small doses, sufficient to secure physical and mental quietude, is exceedingly beneficial. In case clotted blood in large amount is retained in the stomach, careful lavage with very hot water, in order to promptly clear the stomach, followed by a solution of adrenalin chloride, 1 to 5,000, permitting it to remain for a short time before removing with tube, is an efficient method of checking hemorrhage. If hemorrhage recurs in sufficient amount to endanger the life of the patient, surgical advice should be sought with the view of immediate operation. Personally, I insist that a skilled surgeon shall see my patient as soon as possible after the occurrence of a severe gastric hemorrhage, not with a view of immediate operation, but for the purpose of becoming familiar with the patient's condition, that he may be prepared to act promptly in case the hemorrhage is sufficient to endanger the patient's life. If perforation occurs immediate operation offers the only hope of relief.

Bearing in mind the danger of relapse, we should impress upon our patients the necessity for extreme care in the selection of food for some months. These patients should be urged to eat slowly, masticate thoroughly, avoid frequent eating, and, under all circumstances, to avoid over-eating, one large meal being sufficient to undo the work of weeks. I have had no experience with the Fleiner method of treatment by means of large doses of bismuth, or the Conheim method by the use of olive oil.

Permit me to reiterate that the treatment of chronic indurated ulcer belongs, with but few

exceptions, to the surgeon, consequently the internist should promptly refer all such cases to the skilled surgeon for operation. In case the ulcer is situated to the left of the pyloric portion of the stomach, and but slightly indurated, it is a safe rule to give the patient the advantage of the line of treatment suggested for the relief of acute ulcer, before resorting to operation. Unfortunately, eighty per cent of all ulcers are situated within the limits of the pyloric portion, following Mayo's division of the stomach into two parts,—a pyloric or grinding portion lying to the right of the cardiac orifice, and a cardiac portion to the left.

The fact that in increasing numbers each year these cases of chronic ulcer, after varying periods of improvement, re-develop their former pre-operative symptoms, naturally leads to the inquiry, Is gastro-enterostomy the ideal operation for the relief of chronic ulcer? The doubt in the minds of those most competent to speak is well voiced by Rodman in the opening sentence of his paper, presented at the 1906 meeting of the American Medical Association, in which he says, "We may say that surgical opinion has crystalized on some phases of ulcer, is crystalizing upon others, and in some phases is chaotic."

During the last few months I have had under my care, for short periods of time, eight patients on whom gastro-enterostomy had been performed for the relief of chronic ulcer, with only temporary relief, followed by gradual return of the former symptoms. These cases were operated upon by skillful surgeons, consequently no suspicion of imperfect technic would hold. Unable to give relief, I advised, in each instance, that the patient return to his surgeon for observation, and, if considered best, a second operation. It

would seem unreasonable to the writer to expect that simple drainage of a stomach can remove pathologic changes in the gastric walls.

CONCLUSIONS

The following conclusions regarding the diagnosis and management of gastric ulcer would seem warranted:

1. That the diagnosis of gastric ulcer, aside from cases accompanied by frank hemorrhage, demands careful and painstaking observation on the part of the clinician before arriving at a conclusion.
2. That the nature of the treatment required for the relief of gastric ulcer renders accuracy of diagnosis important; before instituting treatment.
3. That all uncomplicated cases of acute gastric ulcer are amenable to proper medical treatment and should be so treated.
4. That cases of acute ulcer complicated by severe and recurrent hemorrhage call for surgical treatment.
5. That acute perforation demands immediate operation.
6. That chronic, indurated ulcers of the pyloric portion of the stomach, including their complications and sequelæ, demand surgical treatment.
7. That all uncomplicated cases of chronic ulcer of the cardiac portion of the stomach should have the advantage of medical treatment before submitting to operation.
8. That the end-results, following gastro-enterostomy, for the relief of chronic ulcer, are not satisfactory.
9. That the ideal surgical treatment of chronic, indurated ulcer is excision, in some form.

PHYSIOLOGIC CHEMISTRY

CONDUCTED BY

RICHARD OLDING BEARD, M. D.

Professor of Physiology, University of Minnesota

ASSISTED BY

J. P. SEDGWICK, B. S., M. D.

Instructor in Physiologic Chemistry, University of Minnesota

THE PROTEINS

Everything which makes for uniformity of classification and nomenclature in medicine and its allied sciences is to be welcomed; indeed, the growing intercourse which is obtaining between national and international bodies devoted to the encouragement of research, tends to make such uniformity imperative.

The British Physiological and Chemical Societies have jointly contributed an item toward this result in proposing a better terminology and grouping of the proteins. The recommendations of their committees are well worth reprinting and the more so since they are to be presented to and considered by the International Physiological Congress, at Heidelberg, and the American

Physiological Society. The profession at large will find the recommendations, which follow, clinically suggestive at several points.

I. The word *proteid*, which is used in different senses in this country and in Germany, should be abolished.

II. The word *protein* is recommended as the general name of the group of substances under consideration. It is at present so used both in America and in Germany. It admits readily of the use of such derived words as *protease* and *proteosc*. If used at all, the term *albuminoid* should be regarded as a synonym for protein.

III. The subclasses should be as follows:

1. *Protamines*. These are simple members of the group. They are exemplified by substances like *salmine* and *sturine*, which have been separated from fish sperm.

2. *Histones*. These are more complex substances, although this and the previous class probably pass gradually into one another. The class is exemplified by the *histones*, separated by Kossel from blood corpuscles.

3. *Albumins*. These are proteins of which egg albumin and serum albumin may be taken as typical examples.

4. *Globulins*. These are proteins which differ from the albumins in solubility. They are more readily "salted out" of solution than the albumins. They are exemplified by *serumglobulin* and *fibrinogen*. This class should also include certain derivatives of globulins, such as *fibrin* and *myosin*.

5. *Scleroproteins*. This new word takes the place of the word *albuminoid* in the limited sense in which the majority of physiologists have been accustomed to use it. It includes such substances as *gelatin* and *keratin*; the prefix indicates the skeletal origin and often insoluble nature of its members.

6. *Phosphoproteins*. This class includes such substances as *vitellin* and *caseinogen*, with its derivative *casein*. The prefix *nucleo*, frequently used in relation to this class, is incorrect and misleading.

7. *Conjugated proteins*. These are substances in which the protein molecule is united to a "prosthetic group." The principal subdivisions are:

a. *Nucleoproteins*.

b. *Glucoproteins* (e. g., mucin).

c. *Chromoproteins* (e. g., hemoglobin).

8. *Derivatives of proteins*. Of these the products of protein hydrolysis are those which require special attention. These should be classified as follows:

a. *Metaproteins*. This term is suggested in place of *albuminate* (acid-albumin, alkali-al-

bumin), which is objectionable because (1) these products are obtainable from both albumins and globulins, and because (2) the termination *ate* implies a salt.

b. *Proteoses*. This term includes albumose, globulose, gelatose, etc.

c. *Peptones*. This term should be restricted to the further products of hydrolysis which differ from the proteoses, inasmuch as they cannot be salted out from solution and usually resemble them in giving the biuret test.

d. *Polypeptids*. The majority of the poly-peptids are synthetical substances; some, however, have been separated from the products of protein hydrolysis. They are products of cleavage beyond the peptone stage, and consist of two or more amino-acids in association.

IV. The term *caseinogen* should be used for the principal protein in milk; and *casein* for its derivative, which is the result of the action of rennet.

V. The two principal proteins of the muscle plasma should be termed *paramyosinogen* and *myosinogen*. The term *soluble myosin* should take the place of v. Fürth's soluble myogen-fibrin. The term *myosin* should be restricted to the final product formed during rigor mortis.

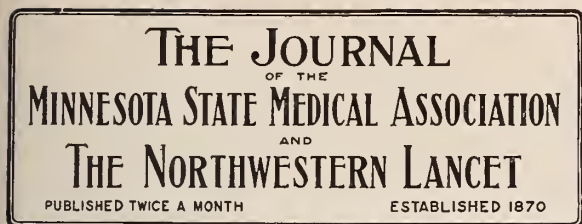
There is very little to be said in criticism of these recommendations. As the report suggests, the word *protein* has been preferred in America for some time. The writer has repeatedly proposed the substitution of the term *proteinuria* for the clinical use of *albuminuria*.

The term *albuminoid* is not etymologically a synonym for protein, and, as applied to the class, as a whole, it is essentially a misnomer. Its affix signifies *similar to*, and it has been properly used to designate the pseudoproteins, of which collagen, keratin, etc., are examples. It may be doubted whether the inclusion of these with the true proteins is sound, since, dietetically, they cannot be substituted for them. The superiority, however, of the new designation, *scleroproteins*, is acknowledged, in view of their essentially skeletal relations.

Exception must be taken to the inclusion of fibrin and myosin with the globulins and of casein with the phosphoproteins. These three derivatives should be separately classed in view of their similarity of origin, their identical mode and occasion of development, and their diminished solubility.

The proposed designation of the muscle proteins is really a revival of terms which antedated, and are much simpler and more consistent than those of v. Fürth.

BEARD.



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JULY 15, 1907

THE SOUTH DAKOTA TRANSACTIONS

We begin in this issue the publication of the transactions of, and the papers read before, the South Dakota State Medical Association. We are sure it must be apparent to our readers that the first general publication of an association's transactions and papers, with the discussions upon the subjects coming up at the business meetings and following the scientific papers, is a matter of great interest. This is especially true, it seems to us, in a comparatively new field, for in such presentation of a society's work to the profession outside of its own state, the society is showing what it has accomplished and what are its aims and its ideals.

It is particularly pleasing to us to have this journal made the medium through which the medical profession of South Dakota presents its work to the medical profession of the Northwest and, indeed, of the entire country, for whatever is good in a paper published today in a medical journal finds its way into the current literature of the medical world.

We leave our readers to judge of the merits of the papers presented at the recent meeting

of the South Dakota Association, but we cannot refrain from commending the medical profession of the state for its high aims and its earnest efforts to advance the interests of itself and the general public, as manifested in the attitude of both the state and the district societies upon the subjects now before the profession in every state.

WEEKLY SUMMER VACATIONS FOR PHYSICIANS

We believe we heard last summer of a plan, adopted in some—perhaps only one—villages in the Northwest whereby only one physician was on duty one day in the week, Saturday or Sunday. The plan seemed to us an admirable one, not only for giving the physicians a rest, but for bringing them into closer, more intimate, and more friendly relations.

The five dentists of Albert Lea have taken up the plan, and during the summer only one dentist will keep "open shop" Saturday afternoons, the other four will play.

Why cannot physicians do the same? Is human nature—even among physicians—made of such poor stuff that the plan is not feasible? Certainly, there is nothing in other conditions that seriously militates against it. Physicians need the rest, and we venture to say if the plan of a Sunday off for the whole tribe, except one, be adopted for the year round the public health will not suffer, no physician will be a financial loser, and some good and unlooked-for things will happen.

Where is the village whose physicians have the courage to try it, or are now doing it?

THE CONFERENCE OF ASSOCIATED CHARITIES AND CORRECTION

The thirty-fourth annual meeting of the Conference of Charities and Correction and its allied gatherings recently brought together in Minneapolis a notable gathering of men and women interested in the progress of different social movements. The care of dependent and degenerate children, of the insane and the criminal, the education of the deaf and the blind, and the relief of the dependent classes found in every large city, call for the expenditure of enormous and increasing sums of money, and absorb the energies of a large number of normal people. Some idea of the organized charitable work carried on at present may be found in the statement that in New York state alone there are 1,581 separate organized public and private charitable institu-

tions, including 352 hospitals, 228 homes for children, 190 homes for the aged, and 84 fresh-air charities. Fortunately, the spirit of the age requires that those who are helpless in the community should be cared for by those who are more fortunate, and that criminals should be so treated as to restore them to good citizenship rather than that vengeance should be satisfied. To educate and lead the public in these matters and to solve the problems that constantly arise in the administration of public charities, is the object of the conference.

An index to all papers read and all matters considered in the conference during the thirty-four years of its existence has recently been published and affords an excellent guide to the study of charity and correction methods, as well as an index to the progress and changing sentiment from year to year in these lines.

MEDICAL EDUCATION IN THE UNITED STATES

The Council on Education of the American Medical Association, after a careful study covering a period of three years, made its report to the Association at the Atlantic City meeting in June. Every medical school in the United States was visited by some member of the committee, and the report summarizes the results of these personal examinations with the work done in the 160 medical schools of this country.

The report is at once both humiliating and encouraging: it is humiliating to be told that only fifty per cent of our medical schools are "sufficiently equipped to teach modern medicine"; it is encouraging to know that the committee feel that the deficiencies of three-fifths of those below grade may be remedied, and that only twenty per cent of all schools are unworthy of recognition.

With only fifty per cent of our schools above the grade of 70, it is manifest that the general average is low; the committee says *extremely* low; and yet the committee says our best schools rank with the best schools of Europe.

Manifestly, then, the medical profession has a problem before it needing immediate attention and effective measures tending to its solution. The causes for the very low grade of twenty per cent, and the unsatisfactory grade of thirty per cent, of our schools, may be found in the absence of endowment and the presence of a system of money-making in the private schools.

We take it that the solution of this problem lies in two directions: proper help for the schools that are worthy to be helped, and publicity concerning the condition of the schools that ought not to survive. Financial assistance, while indis-

pensable, is not all that some schools need; the right kind of men for teachers and managers are often more difficult to obtain, and yet no school can succeed without them. The publicity part of the problem, while apparently simple, is yet very difficult. No association of men has a legal right to publish such a list, and no respectable journal would do so. The schools must be judged, not by a report of any body of men, but by their fruits, and they can be seen in the results of the examinations of medical examining boards, which might, properly and profitably, be published.

The committee's summary is very interesting, and we give it herewith, with the names of the men constituting the committee or council.

SUMMARY

In brief, the situation of medical education in the United States may be given as follows:

(a) A three years' careful study has been made by the Council on Medical Education of the American Medical Association of the conditions surrounding medical education in the United States. This study included the inspection of all the schools in the United States by one or more members of the Council.

(b) The great advances in the sciences in recent years has created the necessity for a much broader and more thorough education, both preliminary and medical, for the physician equipped to practice modern medicine.

(c) The standards of the medical schools in the United States are very uneven, representing the highest and the lowest types as compared with the standards of England, France and Germany. As a whole, the standard in this country is unsatisfactory and much lower than in those countries.

(d) A modern medical education demands, 1, a four-year high school education; 2, a year of physics, chemistry and biology; 3, two years in well-equipped laboratories of anatomy, physiology, pathology and pharmacology; 4, two years in clinical work in dispensaries and hospitals; 5, a year as interne in a hospital.

(e) The expense for the equipment and maintenance of the modern medical school is greater than can be met by fees paid by medical students. Medical schools, therefore, need endowments in order to meet the demands of present-day medicine.

(f) In the United States, until recent years, medical education was mostly in the hands of medical colleges conducted as private institutions, while in Europe it is controlled by the universities. Within recent years, however, some of the medical colleges in this country have secured university connection.

(g) There are still, however, a large number of schools which are conducted solely for profit, and profit is only possible where the college fails to provide proper facilities for laboratory and clinical training.

(h) There are 160 medical schools in the United States alone, as many or more than there are in all the countries of Europe combined. Of the 160 medical schools in the United States only about 50 per cent are sufficiently equipped to teach modern medicine, 30 per cent are doing poor work and need to make great improvements, while about 20 per cent are unworthy of recognition.

(i) If the public realized the enormous difference that exists between well-trained modern medical

service and ignorant inefficient medical service they would soon demand and obtain the needed reforms.

(j) A state without the protection of good medical laws, well enforced, becomes the dumping-ground of the low-grade medical school with its output of illy-prepared medical men.

(k) To secure better conditions requires two things: Endowments for medical schools and better legislation providing state control of medical practice and licensure.

(l) This country should not be satisfied with medical standards unless they are at least equal to those of other world powers which are our competitors in commerce, arts and science.

COUNCIL ON MEDICAL EDUCATION

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THE STUDY AND TEACHING OF PSYCHIATRY

Though much attention has been given to the subject of psychiatry in the last few years, this branch of medical science, for various reasons, still lags far behind its sisters. So much public and private charity has been devoted to the care of the insane in this country that, as far as their physical welfare is concerned, they do not suffer by comparison with similar individuals in any other country; but, unfortunately, it is far otherwise in respect to the character of the scientific work done in their behalf. In most institutions the staff is kept so busy in attending to administrative duties that, with the routine care of the patients, but little time is left for careful study, and in very few places indeed is there that careful examination of patients and elaborate recording of symptoms which have done so much for other branches of medicine. In each of the few hospitals where progress has been made along scientific psychiatric lines, the credit has been due largely to some one man who in a wise way has dominated the institution in which he has been placed, and even this has often been accomplished in the face of much opposition and discouragement.

Two very important advances in the treatment of the insane have been made in the last few years, viz., the introduction of general hospital methods for the treatment of recent cases of insanity, including rest in bed, careful recording of mental and physical conditions, skilled nursing, etc., and the establishment of well-equipped clinical and pathological laboratories. A number of institutions, including those of Minnesota, have already adopted these ideas, but, in order to secure their highest efficiency, further material equipment is necessary, and the appropriation by our

last legislature of money that may be used for observation hospitals in the different institutions for the care of the insane makes a notable step in progress. How important this separation of acute cases is can be appreciated only by physicians who have worked in such places and have viewed with dismay the evil influence on recent and hopeful cases of association with the chronic insane. When, in addition, each of our institutions for the insane and feeble-minded is provided with a well-equipped laboratory for clinical and pathological research we may expect further and more notable contributions to science. No other class of patients is so completely, or for so long a period, under the physician's control as are these wards of the state, and the opportunities for study are correspondingly great.

There will still remain, however, the need for a specially equipped hospital and laboratory where students may receive that careful bedside instruction in mental diseases which will fit them either to become satisfactory assistants in our state hospitals or to deal intelligently with the cases of insanity which come to them in their general practice of medicine. A pavilion for mental cases in connection with the new University hospital will supply this latter want for at least some of our students. In its recently built psychopathic hospital for purposes of instruction, Michigan has led all the other states in this work, and only an absurd prejudice against the use of insane patients for clinical purposes has prevented Illinois from being a worthy second. It is a striking fact that even at this period of medical development the young graduate, desiring to fit himself for work among the insane, can secure competent instruction in but two states in the Union, and even there only if he be already connected with the institutions of those states.

THE PROBLEM OF THE INEBRIATE

Several states, including Minnesota through its recent legislative enactment, are undertaking the care and treatment of their inebriate population. The need for this has long been recognized, and it has already been attempted by a few states with varying degrees of failure. As a matter of fact, the subject of inebriety is but little understood, particularly by the public at large, and, before any great measure of success in treatment can be attained, it is necessary that there should be a more complete knowledge of the conditions under which alcoholism develops, of the alcoholic himself, and of the proper methods of treatment.

The public has now come to understand fairly well that some forms of alcoholic excess, at least, are really manifestations of a diseased

condition, and that practically all advanced alcoholics are best treated in a hospital with medication, under pleasant surroundings, and with proper exercise of mind and body. It is too generally accepted, however, that these measures suffice for all cases. As a matter of fact, inebriates, as they are seen in our public institutions are readily divided into two classes, which may be well described as the *hospital* class and the *custodial* class.

The former includes the otherwise well-behaved citizen who, by too frequent indulgence in liquor, finds himself no longer able to control his appetite. For him treatment for three months in a well-conducted institution, where he is kept busily employed through the normal working hours in out-of-door labor, where his surroundings are made pleasant, where by proper medication his general health is restored and by proper encouragement his self-respect and self-control are stimulated, will usually produce excellent results and often a complete cure.

The custodial class is made up of those undesirable citizens who are found in even the smallest communities, thoroughly disreputable in every way and whose alcoholic habits constitute but a small part of their offense against society. Not infrequently they are sent to the state hospital to save them from jail or penitentiary sentences for offenses committed while under the influence of liquor. For this class the so-called hospital treatment is entirely useless and unfortunately they make up the majority of the patients sent to every public institution for the cure of inebriacy. They have no real desire to reform, and the medical profession has no remedy at its disposal which will develop self-respect or will power in such barren soil. For these men the necessary treatment is a stone wall for detention, the discipline of a prison to enforce better habits of living, and a sentence of from one to five years. When they are placed with the hospital class they at once become a disturbing element, and eliminate all possibility of benefit to others better disposed than themselves. They create a bad spirit in the wards, discredit the methods of treatment, discourage the other patients and the physician, and almost invariably end by running away. They are lazy, and, without prison surroundings, it is impossible to compel them to work. Their days are spent in tobacco-chewing, card-playing, and foul conversation, and such a spirit is developed in the ward as no decent man can thrive in. It is this class which has discredited practically every public institution for the care of alcoholics, and until some way is provided whereby they can be

kept separated from other and better men, or the superintendent is permitted to refuse admission to such characters or to discharge them as soon as discovered, no public hospital for inebriates can meet with unqualified success.

CORRESPONDENCE

HOURLY NURSING

St. Anthony Park, July 5, 1907.

TO THE EDITOR—

The terms *hourly* and *visiting* nursing are sometimes used meaning the same work, but they are really different branches entirely. *Visiting* nursing is the line conducted under organized charity, whereas *hourly* nursing is a private enterprise.

The hourly nurse may be engaged for the home operation. She will go to the house beforehand, prepare the room and patient, and do the necessary sterilizing and have everything in readiness at the appointed hour. She assists in the operation, stays with the patient until she is from under the anesthetic, and calls the next day, making subsequent calls as she may be engaged.

Confinements are conducted in the same way, as far as previous notice will allow, and forms one of the strongest branches of the work. Mother and babe are left in good condition, and a call is made the next day.

The typhoid patient may be called on regularly. He may receive a temperature bath as ordered, and the family instructed in the process, and the general plan of disinfection gone over and reasons given for the same. The diet for the ensuing day may be planned or prepared. The results should show whether such work is satisfactory. Then the physician may be confident of having dressings and treatments carried out according to orders with surgical cleanliness when he is not able to attend to them himself.

Many persons unable to employ a graduate nurse by the week, in a long illness, will find it a great comfort to the patient and a help to the tired members of the family to have the hourly nurse come each day to give the bath and carry out instructions of the physician. She may be used to give the nurse on a critical case a much-needed rest or relaxation for a few hours.

These are just a few of the uses for the hourly nursing, and any physician reviewing his practice will find nearly as many places to apply it as he has cases.

BERTHA WILMOT RODERICK.

MISCELLANY

PROGRAM OF THE THIRTY-NINTH ANNUAL MEETING OF THE MINNESOTA STATE MEDICAL ASSOCIATION AT DULUTH

TUESDAY, AUGUST 13, 9:30 a. m.

1. Syphilis.....Dr. Burnside Foster, St. Paul
Discussion opened by Dr. John M. Armstrong, St. Paul.
2. Gall-bladder Disease:
Pathology—(Etiology, morbid anatomy, symptoms).....Dr. Geo. D. Head, Minneapolis
Therapeutics—(a) General, Dr. M. K. Knauff, Two Harbors. (b) Surgical, Dr. J. E. Moore, Minneapolis.
Discussion opened by Dr. Wm. Lerche and Dr. H. P. Ritchie, St. Paul.
2 p. m.
3. Oration in Surgery.....Dr. T. A. Davis, Chicago
4. Chronic Disease of Kidneys:
Pathology—(Etiology, morbid anatomy, symptoms).....Dr. Geo. D. Head, Minneapolis
Therapeutics—(a) General, Dr. A. J. Braden, Duluth. (b) Surgical, Dr. A. MacLaren, St. Paul.
Discussion opened by Dr. H. B. Sweetser, Minneapolis.

WEDNESDAY, AUGUST 14, 9:30 a. m.

5. President's Address.....
.....Dr. H. A. Tomlinson, St. Peter
6. Prophylaxis of Prostatic Hypertrophy.....
.....Dr. H. Peddicord, St. Paul
7. Disease of Stomach:
Pathology—(Etiology, morbid anatomy, symptoms).....Dr. T. W. Stumm, St. Paul
Therapeutics—(a) General, Dr. J. W. Bell, Minneapolis. (b) Surgical, Dr. John T. Rogers, St. Paul.
Discussion opened by Dr. G. G. Etzel, Minneapolis.
2 p. m.
8. Oration in Medicine.....
.....Dr. Chas. Lyman Greene, St. Paul
9. Acute Infectious Disease of Lungs (pleura):
Pathology—(Etiology, morbid anatomy, symptoms).....Dr. W. R. Bagley, Duluth
Therapeutics—(a) General, Dr. E. J. Abbott, St. Paul. Surgical, Dr. W. H. Magie, Duluth
Discussion opened by Dr. A. T. Mann, Minneapolis.

THURSDAY, AUGUST 15, 9:30 a. m.

10. Sanatoria Treatment of Tuberculosis....
.....Dr. H. Longstreet Taylor, St. Paul
11. Treatment of Inebriety.....
.....Dr. Haldor Sneve, St. Paul
12. State Quarantine.....
.....Dr. H. M. Bracken, Minneapolis
Discussion opened by Justus Ohage, St. Paul.
13. Exophthalmic Goitre:
Pathology—(Etiology, morbid anatomy, symptoms).....Dr. Arthur Sweeney, St. Paul
General Nervous Manifestations In....
.....Dr. W. A. Jones, Minneapolis
Therapeutics—(a) General, Dr. Haldor Sneve, St. Paul. (b) Surgical, Dr. C. H. Mayo, Rochester.

Discussion opened by Dr. F. A. Dunsmoor, Minneapolis.

14. Intramuscular Injection of Hydrargyrum in Treatment of Syphilis.....
.....Dr. Geo. P. Crume, Minneapolis
15. Tendon Transplantation.....
.....Dr. Emil S. Geist, Minneapolis
16. Inguinal Hernia.....Dr. Ed. S. Judd, Rochester
17. The Rational Care of Hay-Fever Patients.
.....Dr. Frank C. Todd, Minneapolis
18. Technic in the Intranasal Method of Operating for Chronic Empyema of the Maxillary Sinus.....
.....Dr. Wm. R. Murray, Minneapolis
19. The Diagnosis and Treatment of Penetrating Wounds of the Globe, with a Demonstration of a Method of Accurately Localizing Foreign Bodies.....
.....Dr. Chas. N. Spratt, Minneapolis
20. Epidemic Meningitis.....
.....Dr. H. L. Staples, Minneapolis

Time limit: Single papers, twenty minutes; discussion, five minutes; closing discussion, ten minutes.

NEWS ITEMS

The railroads will not grant reduced rates to the State Association meeting because of the present two-cent rate in force. The fare between St. Paul or Minneapolis and Duluth is \$3.04 each way.

Dr. W. C. Chambers, of Owatonna, has moved to Ceylon.

Dr. Wm. Hotchkiss, a graduate of Ann Arbor, has located in New Rockford, N. D.

Dr. L. G. Smith, of Mannheim, N. D., is doing post-graduate work in Chicago.

Dr. O. H. Urstad, of Kiester, has gone to Norway with his family for a pleasure trip.

Dr. George Steven, of Byron, was married, in June, to Miss Maud Elliott, of Rochester.

Dr. Iver S. Benson, of Jackson, was married, in June, to Miss Katherine Oberg, of Minneapolis.

Dr. M. A. Desmond, of Akeley, was married last month to Miss Harriet B. Fuller, of Moorhead.

Dr. Harry E. McKibben, of Hector, was married last month to Miss Ella Lunder, of the same place.

Dr. George H. Wells, of Butte, Mont., formerly of St. Paul, died suddenly at Butte on July 1st.

Dr. Harry J. O'Bryan, of Watertown, S. D., is taking a short course of post-graduate work in Chicago.

Dr. Harry O'Brien, of St. Paul, has been appointed resident physician of the state prison, at Stillwater.

Dr. Hans Johnson, of Kirkhoven, and Miss

Estelle A. Quam, of New London, were married last month.

Dr. E. Z. Wanous, of Minneapolis, was married last month to Miss Julia Bell Hopkins, of Mendon, Mich.

Dr. Burt A. Dyer, of DeSmet, S. D., and Miss Jessie Welch, of St. Charles, Minn., were married last month.

Dr. Maurice A. Walker, of Dillon, Mont., and Miss Lucie M. Ford, of Lima, Mont., were married last month.

Dr. B. P. Reko, of Galena, S. D., was married last month to Miss Marie Rejean Margajitos, of Columbus, Ohio.

Dr. E. Lawrence Meyer has moved from Walnut Grove to Minneapolis, and has offices at 514 West Thirty-second street.

The Blue Earth County Medical Society changed the date of its mid-summer meeting to the last Monday in September.

Dr. S. H. Graves, of Hurley, S. D., has been appointed by the governor a member of the State Board of Medical Examiners.

The citizens of Plainview have taken steps to have a hospital at that place. A large residence has been rented for this purpose.

Dr. C. Swanson, a recent graduate of the State University, has formed a partnership with Dr. J. C. Cummings, of St. Hilaire.

Dr. Mary McMillan, of St. Peter, a recent State University graduate, has accepted a position in a Spokane, Wash., hospital.

Dr. W. E. Rochford, of Minneapolis, has gone to Europe, and will spend two or three months in surgical work, mostly in Berlin and Vienna.

Dr. Mary P. Hopkins, of the St. Peter State Hospital, has taken up general practice at White Bear Lake, the handsome summer resort near St. Paul.

Dr. Luthard Berg, of the City and County Hospital, of St. Paul, will take charge of the work of Dr. Lima, of Montevideo, while the latter is abroad.

Dr. Charles Swenson, of Braham, has opened a hospital in a private house at that place. Dr. Sterner, of Cambridge, is associated with him in the hospital.

Dr. H. C. Stuh, of Argyle, State University 1900, has returned from Europe, where he spent a year and a half in special study. He will locate elsewhere than in Argyle.

The movement for a hospital at Faribault is progressing satisfactorily. Fourteen subscribers have given \$100 each, the cost of furnishing a room. The hospital will cost \$40,000.

Dr. L. F. Schmauss, of Mankato, has pur-

chased a hospital at Alexandria, Ind., where he will locate early in January. He goes to Europe in August to visit old friends, and for special study.

Dr. Geo. A. Abbott, of Watertown, S. D., who retired from general practice some time ago, will confine his practice to eye, ear, nose and throat work. He has been doing post-graduate work in Chicago.

The new addition to St. Luke's Hospital, Aberdeen, S. D., will contain 50 rooms. The present building contains 29 rooms. City Engineer Washburn, of Aberdeen, is drawing the plans for the addition.

Dr. G. F. Ruediger, of Chicago, who is winning fame by his original work, is to have charge of the North Dakota Public Health Laboratory, connected with the North Dakota State University at Grand Forks.

Dr. G. A. Chilgren, after seven years' practice in Sauk Rapids, has decided to seek a larger field. He will spend some months in post-graduate work in Chicago. His practice has been purchased by Dr. Wm. Friesleben, of Ohio.

The Bismarck Hospital and Deaconess Home of the Evangelical Association has been incorporated, and its officers have been elected. The secretary is Rev. W. C. Menges, of Bismarck. A handsome modern hospital building will soon be erected.

The Hennepin County Medical Society succeeded in its efforts to induce Minneapolis to have a sane and bloodless Fourth of July. St. Paul, San Francisco and some other larger cities also succeeded in various ways in accomplishing the same end.

Dr. J. H. Beaty, of St. Cloud, has gone to Europe for four months' special study. He will spend some time in the clinics of Prof. Bier, at Bonn. Dr. W. A. Meierding, a recent graduate of the State University, takes charge of Dr. Beaty's practice during his absence.

Drs. W. J. Mayo and Christopher Graham, accompanied by Miss Alice Magaw, the anesthetist of St. Mary's Hospital, Dr. Mayo's wife and daughters, and Dr. and Mrs. W. D. Haggard, of Nashville, Tenn., have gone abroad, and will tour through England, Ireland and Scotland in automobiles.

Dr. Justus Ohage, of St. Paul, has been greatly honored by the emperor of Germany, who recently conferred upon him the Order of the Red Eagle, in recognition of the work he has done as health officer of St. Paul and probably because he has become a distinguished German-American citizen, conferring honor by his life upon both countries.

The Woman's Medical Club of Minneapolis met Wednesday evening, June 26th. The paper of the evening was by Dr. Ethel E. Hurd on "The Thyroid Gland with Special Reference to the Treatment of Exophthalmic Goitre." It was fully discussed. This was the annual meeting and the following officers for the next year were elected: President, Dr. Florence C. Baier; vice-president, Dr. Esther Young; secretary, Dr. Ethel E. Hurd; treasurer, Dr. Maude Slocumb.

The Alumni Association of the State University held their thirteenth annual meeting in St. Paul on June 12th. Dr. George D. Head, the president, acted as toastmaster at the banquet. In addition to the annual banquet, clinics were given at the St. Paul Hospital, by Drs. Rogers, Greene, and Ramsey. The officers elected for the current year are as follows: President, Dr. Harry P. Ritchie, St. Paul; first vice-president, Dr. J. C. Litzenberg, Minneapolis; second vice-president, Dr. G. C. Sheppard, Kimball; secretary and treasurer, Dr. Herbert W. Jones, Minneapolis.

During the past year numerous changes have taken place in the medical faculty of the State University, some of which were made last fall and some at the recent meeting of the Board of Regents. Dr. Frank F. Wesbrook was made Dean of the faculty some months ago. Among the new appointments are the following: Dr. E. D. Brown, Acting Professor of Materia Medica and Pharmacology; Prof. George B. Frankforter, Dean of the School of Chemistry and Professor of Chemistry; Dr. H. W. Hill, Assistant Professor of Bacteriology; Dr. John Black Johnston, Assistant Professor of Anatomy of the Nervous System; Ira H. Derby, Assistant Professor in Chemistry; Dr. J. P. Sedgwick, Instructor in Physiological Chemistry; Dr. H. Journey Wells, Clinical Assistant in Diseases of the Eye and Ear; Dr. H. A. Bouman, Clinical Assistant in Physical Diagnosis; Dr. M. R. Wilcox, Assistant Professor of Physiology. The changes are as follows: Dr. A. T. Mann is advanced and becomes Clinical Professor of Surgery; Drs. Frederick Leavitt and J. C. Litzenberg, Clinical Professors of Obstetrics; Dr. S. M. White, Associate Professor of Pathology and Bacteriology; Dr. R. E. Farr, Clinical Instructor in Surgery; Dr. E. R. Hare, Instructor in Anatomy; Dr. Jenneatte M. McLaren, Clinical Instructor in Obstetrics; Dr. W. D. Sheldon, Clinical Instructor in Medicine and Instructor in Therapeutics; Dr. W. H. Condit, Instructor in Therapeutics. The Regents also authorized the appointment of a Demonstrator in Pathology, an Assistant Professor in Pathology, and one in Anatomy. These positions will be filled this sum-

mer, and only thoroughly trained men will be appointed.

FOR SALE OR TRADE

A good practice in Southern Minnesota, in a village of 900 population. Good farming community. Address N., care of this office.

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In the central part of Minnesota, an unopposed good practice with a paying drug-store in connection. Large territory; population mixed; books will bear inspection. I desire to retire. Address N. M., care of this office.

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A practice worth \$2,000, and can be increased; village of 800 in Southern Minnesota. Fine country; good schools and churches; collections 99 per cent; population mostly Swede. Going to larger place. \$250 takes practice if sold at once. Address C., care of this office.

INTERNE WANTED

An interne is wanted at the Minnesota Soldiers' Home. Salary, \$25.00 a month, with room, board, and laundry. Address, Dr. E. J. Davis, surgeon, Soldiers' Home, Minnehaha.

FOR SALE

A \$210 rubber-tired Columbus physician's storm-wagon, with pole and shafts, in A 1st condition. Price \$100. Dr. Carl J. Holman, Man-kato, Minn.

FOR SALE

A practice of \$4,000 in a town of 1,600 inhabitants, mostly Scandinavians and Germans. A good farming country. A saw-mill gives employment to 150 men. Office furniture, instruments, and appliances, valued at \$1,200. Will be sold for \$700, including practice. Address A. N., care of this office.

FOR SALE

A twenty-four plate Birtman static machine and all apparatus for giving x-ray and static current treatments. Two x-ray tubes, very little used; $\frac{1}{4}$ H.P. motor, five-speed controller, oxygen generator, insulated platform. All are in first-class condition. Machine without controller and motor, \$140; with both, \$175. Address D., care of this office.

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To save storage, I offer a good bargain on immediate sale of the following: Static machine and x-ray outfit, operating chair and table desk, surgical instruments, medicine case and pocket instrument case, any one or all together, with other items. Ready for immediate shipment or delivery. Address Dr. E. J. Roberts, 1506 Third avenue south, Minneapolis, Minn. Telephone, T. S., 9743.

A GOOD OPENING

A well-known physician who has practiced for over twenty-five years in one of the wealthiest agricultural counties in Minnesota, finds it necessary to go south with his family to reside permanently. He wishes to correspond with some good active man with a view to selling or renting his residence property, located in a progressive town of over 1,000, mostly German and Scandinavian. The goodwill of the practice goes with the property, whether sold or rented. Address F., care of this office.

STENOGRAPHIC AND TYPEWRITTEN WORK

A. G. Long, shorthand reporter, for the past thirteen years has been the official reporter of the State Medical Association, besides numerous other state, national, and international medical organizations. To his work of reporting Mr. Long has added the feature of attractively preparing manuscript in typewritten form, bound flat, and placed in envelopes. Work in the city will be called for and delivered, and out-of-town orders handled by mail. 411 Security Bank Bldg. N. W. Tel. M. 2609.

PHYSICIANS LICENSED AT THE JUNE,
1907, EXAMINATION TO PRACTICE
IN MINNESOTA
UPON EXAMINATION

Baker, Harry R. Hamline, 1907
Barclay, Alex., Jr. U. of Minn., 1907
Bergh, Luthard N. U. of Minn., 1906
Boucher, F. X. Hamline, 1906
Boyum, Peter A. U. of Minn., 1907
Cooper, Maurice D. U. of Minn., 1907
Cutts, George. U. of Minn., 1907
Egan, John M. U. of Minn., 1907
Eklund, Elmer J. U. of Minn., 1907
Gunderson, R. M. Hamline, 1907
Hammes, Ernest M. U. of Minn., 1906
Hanson, Hans Horrick. Hamline, 1906
Hauge, M. M. Hamline, 1907
Holtman, A. A. Bennett, 1907
Jensen, T. J. Hamline, 1907
Judson, Wm. R. U. of Minn., 1907
Karn, Bert R. U. of Minn., 1907
Kelsey, C. G. U. of Minn., 1907
Kusske, Arthur L. P. & S., Chicago, 1907
Labbitt, LaRoy H. U. of Minn., 1907
Lemstrom, Jarl F. U. of Minn., 1907
Loomis, Earl A. U. of Minn., 1907
McMahon, Chas. U. of Minn., 1906
Maland, Clarence. U. of Minn., 1907
McMahon, Chas. U. of Minn., 1906
Martin, Thos. Roy. U. of Minn., 1907
May, Wayne H. U. of Minn., 1907

Mork, Byron O. Hamline, 1907
Morris, Minor. Med. Col. of Ohio, 1890
Norman, Frank. Hamline, 1907
O'Donnell, Jas. E. Hamline, 1907
Olson, Olof A. P. & S., Chicago, 1907
Pederson, Harold. U. of Minn., 1907
Poppe, Fred N. U. of Minn., 1907
Rexford, Luther A. T. Hamline, 1907
Rodgers, Chas. LeRoy. U. of Minn., 1907
Sanborn, Courtland R. U. of Minn., 1907
Seaberg, Simon P. U. of Minn., 1907
Smith, Ernest V. U. of Minn., 1907
Smith, Homer R. U. of Minn., 1907
Stevens, Chas. S. U. of Minn., 1907
Strang, David M. U. of Minn., 1907
Strathern, Moses L. U. of Minn., 1907
Swanson, Cephas. U. of Minn., 1907
Taft, John O. Hamline, 1907
Varco, Albert R. U. of Minn., 1907
Weyrens, Jos. P. U. of Minn., 1907
Williams, John W. Hamline, 1907
Wilson, Wm. C. N. W. Univ., Ill., 1907
Winnick, Jos. B. Rush, 1907
Youngs, Alfred H. U. of Minn., 1907

BY RECIPROCITY

Bell, T. J. Missouri Med. Col., 1877
Bradley, Chas. M. Albany Med. Col., 1887
Burrroughs, Sam. R. Texas Med. Col., 1869
Cohen, S. W.
... Pulte Med. Col., Cincinnati, O., 1878
Crowe, Thos. J.
Homeo. Med. Col., St. Louis, Mo., 1887
Griffith, Frank L.
Homeo. Med. Col., St. Louis, Mo., 1888
Hutchinson, Wm. Fred.
... Indiana Col. of Med., 1885
Ide, Arthur Wheaton. U. of Mich., 1905
Jackson, T. T. U. of Texas, 1893
Jenkins, D. J. U. of Nashville, 1887
Johnson, Chas. E.
... Pulte Med. Col., Cincinnati, O., 1881
Knutson, Oscar.
... Wisconsin Col. of P. & S., 1905
Lane, Laura A. U. of Colorado, 1905
Leonard, Wm. T. Rush, 1871
McKaig, Carle B.
... Sioux City Col. of Med., 1906
Morris, R. T.
... Tulane U., New Orleans, La., 1894
Pollock, Jos. R.
... Hahnemann, Philadelphia, Pa., 1871
Scott, A. C. Bellevue Hos. Med. Col., 1886
Smith, M. M. Jefferson Med. Col., 1891
Smith, Wm. L. N. Y. Homeo. Med. Col., 1891
Stiles, Hunter B.
... Cleveland Homeo. Med. Col., 1887
Thatcher, Wilbur F.
... Detroit Homeo. Med. Col., 1875
Turner, S. T. U. of Louisville, Ky., 1882
Wilson, J. T. Jefferson Med. Col., 1867

THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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INFECTION OF THE UTERUS*

By G. C. BARTON, M. D.,

Professor of Gynecology and Clinical Gynecology, Hamline University

MINNEAPOLIS

Ten years ago much more was being written on the subject of infections of the uterus than at the present time. This is probably due to the fact that some of the problems then unsolved have since been pretty well settled. Notwithstanding this fact, G. Marx, in the Medical Record, April, 1906, says that puerperal sepsis is on the increase. This would indicate either that the lessons then learned were not well learned, or that carelessness in the practice of established knowledge was showing in results obtained.

The following statistics show that in Minnesota Marx is not correct: In 1894 there were 94 deaths from puerperal fever in 36,935 births; in 1895, there were 105 deaths in 36,618 births; in 1896, there were 105 deaths in 38,588 births; and in 1897, there were 86 deaths in 37,144 births. Coming down to 1904, we find there were 106 deaths in 41,365 births; and in 1905, there were 69 deaths in 43,415 births; and in 1906, there were 54 deaths in 43,694 births. This gives a general idea of the mortality from puerperal sepsis, but it is probably below actual mortality from puerperal sepsis and from sepsis following abortions.

The man who is careless in his antiseptic measures is very desirous of having a death appear due to some other cause than sepsis, and so malaria, and grip, and taking cold are

given as the cause of death, for the physician realizes that it is a cause for reproach to have a death attributed to sepsis.

But deaths alone do not by any means tell all the story of uterine infections. Many recover from the acute infection to pass their lives as chronic invalids, and no vital statistics can give us information as to the number of these.

Since Semmelweis, often called the father of antiseptic midwifery, showed by the use of chlorine water a reduction of deaths in the maternity of Vienna from infection from 11.4 per cent to 1.2 per cent, all other institutions have also shown great reductions. In 13,000 cases at the Sloane Maternity Hospital, from Sept. 26, 1893, to Jan. 14, 1905, there were only 32 deaths from sepsis. Stanley P. Warren, M. D., says fifty years ago the mortality due to septicemia in the Boston Lying-in Hospital averaged from 20 to 30 per cent, and other institutions were equally bad. Dr. Norris, of Preston Retreat, reports 500 confinements without a death.

In private practice this does not seem to be true. There has been no reduction in the mortality. It was never so high in private practice, but one would naturally expect a corresponding decrease in the death-rate. Pryor believes there are more deaths now due to carelessness and ignorance of midwives, who attend more than 60 per cent of the cases, and to uncleanness of the rank and file of the

*Read before the Hennepin County Medical Society, March 4, 1907.

profession. Since Dr. Oliver Wendell Holmes showed the relationship between erysipelas and puerperal sepsis it is rare that it occurs in epidemic form.

In the etiology of puerperal sepsis, taking this as a type of uterine infection, we find there are certain things that act as predisposing causes. J. D. Voorhees gives the following: dry labor, long protracted labor, instrumental delivery of any form, many vaginal examinations, the retention of any foreign substance, as membranes, clots, etc., abrasions and tears, large hemorrhages, and constitutional disturbances, a soft, flabby uterus involuting slowly. The exciting cause is some form of bacteria. Of these Lusk mentions the streptococcus, the staphylococcus, the colon bacillus, and the gonococcus. As to the latter germ, there is some question as to what part it plays in a puerperal infection. It is not believed that it alone produces a puerperal sepsis, but that when puerperal sepsis appears in the presence of this germ it is always accompanied by one or the other of the other germs, and that its presence makes the other germs, as the streptococcus and staphylococcus, much more active. This, however, is not established by laboratory experiments; yet we can be certain, by an abundance of clinical experience, that there is a causative relationship between the gonococcus and puerperal sepsis.

Another form of uterine infection is what is termed *sapremic* infection, and is the result of the action of the saprophytes upon some retained substance of conception, producing putrefaction. In a large percentage of cases of this kind it has been found that the streptococcus was also present. Von Franque, in 1893, says "the occurrence of sapremia in the puerperium is rare." When a less virulent form of infection is present, with the presence of a decomposing mass in the uterus, it is likely to be classed as a sapremic infection. Especially so, if the patient rapidly recovers after its removal.

To place the responsibility where it belongs, it was necessary to determine why these germs are present and from whence they came. Was the patient herself responsible for their presence, or, in other words, was there auto-infection, or were they introduced into the genital tract in some way? To establish this it was necessary to decide as to whether the genital tract was normally sterile. The investigators along this line have been numerous, and the resulting literature intensely interesting, but too voluminous for its discussion in a paper of this kind, except to state what seem to be the definite conclusions arrived at from these studies. It seems pretty definitely settled that

the normal, healthy genital tract of woman is sterile. That where auto-infection occurs it is probably due to the presence of a gonorrhea, a pus-tube, or some other point of infection in the pelvis. Voorhees believes there are a few cases the medical attendant is not responsible for. Williams believes auto-infection possible, but even if it were possible that an occasional case was one of auto-infection it is safer and wiser for us to look upon every case as one of introduced infection. It would make us less careless in our precautions. We, as surgeons, do not, because of the possible presence of infection in the patient, neglect any part of our antiseptic precautions, and neither should the obstetrician neglect anything that would expose his patient to infection.

"Germs may enter," Voorhees states, "before, during, or after labor," and they get into the genital canal by dirty hands or instruments. They find a point of entrance to the tissue through some abrasion or laceration, or at the placental site. The extension of the infection from this point may be by lymphatics, by veins, or by continuity, and probably in the order named as to frequency. The lymphatic progress of the speedier sort leads promptly to general peritonitis, the slower variety causing a periphlebitis. By veins it causes thrombosis of the venous sinuses of the uterus at the placental site, extending thence along the pelvic veins, mucous membrane continuity causing general endometrial infection, and then extending to the vagina and vulva. The tubes, except in gonorrheal infection, are more rarely involved than is generally supposed. Other parts and organs of the body may be involved by extension of the infection.

Treatment may best be discussed under three heads: prophylactic, medical, and surgical; and of these the first is the most important. If, as Louis Frank believes, sepsis is always due to the introduction of the infection, unless some pathological condition exists in the pelvis prior to pregnancy, then, as Van Horn says, the same precautions should be taken as in doing a laparotomy. If we are all as conscientious in our efforts in this direction as was Michaelis, few would die from infection. It is said he attended a relative in confinement and she died of sepsis. Believing that he was negligent in not using the proper precautions to protect the life that had been placed in his care, his conscience so condemned him he threw himself in front of a locomotive and was crushed to death.

The average doctor goes to a case of confinement, washes his hands, dips them in a little bichloride or lysol solution, goes to the

bed, handles the bed-clothing, fumbles around the hips, vulva, and anus of the patient, makes his examination, and calls it antiseptic midwifery. If I should do a laparotomy in his presence with the same methods I have no doubt he would most severely criticise my antiseptic precautions. The patient's hips, thighs, vulva, and anus should be scrubbed up with soap and water, and then with some antiseptic solution, and if the vulval hair is long it should be trimmed off, and the patient should be covered with sterile towels and sheet. Then, when the doctor has thoroughly scrubbed his hands, and put on his rubber gloves, which have been boiled, he can make his examination without fear of introducing infection. Antepartum vaginal douches should not be used, except when there is evidence of some infection in the vagina; and then the vagina should be scrubbed and prepared as you would for a vaginal operation. Puerperal infections would be rare if these precautions were always taken.

Having used all the necessary prophylactic measures, should infection make its appearance, as would be shown by a chill, rise of temperature, acceleration of pulse, change in the lochial discharge, and the general bad feeling of the patient, then a careful investigation as to the cause of these symptoms should be made. An appendicitis, or a pyelitis, or a milk-fever should be eliminated as a cause of the symptoms, and this should be done at once, for time is an important element in the treatment of these cases. Then a most careful investigation of the vulva, and vagina, and uterus should be made to locate the point of entrance of the infection, because, as Vineberg says, "puerperal sepsis is wound fever or wound infection," and should be treated on the same general principles that you would treat an infected wound elsewhere. S. Marx says: "All puerperal complications are due to an infected area in some part of the genital tract. It can always be located by sight or touch. If attacked early and energetically the disease is readily curable."

Internal medication has no great value except in so far as it aids nature in her eliminative process. A little calomel and salines to keep the bowels free, but not to purge the patient, is of advantage. The giving of quinine as routine practice sometimes apparently does good. Strychnia and alcoholic stimulants are of advantage. The use of ungt. Credæ has never seemed to me to be of any advantage. The use of collargol, by injection in the veins or its rectal injection, I believe, offers more; and in one case in which I used it, I believe it was of advantage. The use of the sera has

not proven of any great value, probably because the infection is nearly always a mixed infection; and also because of its usual delayed use. A. Knyvett Gordon reports a case of puerperal sepsis due to the bacillus coli communis in which he curetted and injected 100 c. c. of serum prepared from a horse injected with five pure cultures of bacillus coli communis with recovery.

A hypodermoclysis of normal salt solution aids in tiding a patient over a critical period. More is to be gained by the early recognition of the infection, and the prompt local measures used to remove it, and establish free drainage, than anything else that can be done.

Vineberg is quoted by J. Haig Ferguson, in the *Edinburg Medical Journal*, as saying that 95 per cent of cases of puerperal sepsis now-a-days met with, where the original infection is in the uterus, can be cured by curettage, drainage, and irrigation. He says, personally, he prefers the finger to the curette. H. J. Boldt says in puerperal infection the uterus should be cleansed manually; usually a curette is not needed.

I have followed the following plan with satisfaction to myself: I anesthetize the patient, and with all the care and antiseptic precautions that I would use in any surgical measure, I introduce my finger into the uterus, and explore the uterine cavity for anything abnormal there. Any foreign substance which I may find I endeavor to remove with the finger, if possible, if not, with the curette, or the two combined. After having made sure that nothing remains in the uterus to cause trouble, I then irrigate the uterus with 1 to 2000 bichloride, following this with normal salt solution, dry the uterine cavity as much as possible, paint it with a mixture of one part carbolic acid and two of Churchill's iodine, then pack the uterine cavity lightly with a strip of iodoform gauze, which should be removed the next day, and the uterus again irrigated, if necessary, and another strip of gauze introduced, which should, in turn, be removed in twenty-four hours. According to Reed, I have occasionally modified this plan by soaking my gauze in sterile glycerine or glycerine with some antiseptic. I believe the exosmosis produced plays an important part in ridding the uterus of its infection. Later, if the infection has not been arrested or if early treatment has not been instituted, then local accumulations of pus should be searched for, opened, and drained, whether they appear in the uterus, in the connective tissue, in Douglas' pouch, or in the tubes. If these measures all fail, hysterectomy is one of the surgical measures advocated. The mortality has been

so high, it is questionable if ever the operation is justifiable. Ferguson says hysterectomy has its place, and I would recommend it in cases that show no tendency to improve with ordinary treatment. The kind of case which is likely to be benefited by hysterectomy is one having decomposing placental structure which cannot be removed, suppurating, and sloughing myofibromata and in instances of septic metrophlebitis. The majority of men prefer the abdominal route, and there are good reasons for preferring it. It provides an opportunity for washing out the abdominal cavity, should it contain purulent fluid, and also gives a better view of the nature and extent of the infection. In 1896, Baldy reported a hysterectomy in a case of pyemia due to infected thrombi. Hirst, in the discussion of this paper, said hysterectomy was never justifiable in cases of this kind, that the cases all got well anyhow, and that the thrombi could not be removed if a hysterectomy was performed, and reported a number of cases to justify his contention.

The following cases illustrate some of the points of my paper:

Mrs. F., a patient of Dr. Lewis', whom I saw, with Drs. Abbott and Lewis, and afterwards saw a number of times with Dr. Lewis, was suffering with colon bacillus infection. Dr. Lewis has kindly allowed me to report this case in connection with my paper. I think it the most remarkable case of the kind I ever saw.

The record I have starts in on the 15th of March, and ends on April 12th. The condition followed a miscarriage and was evidently a thrombotic form of infection.

The temperature tracing I here show you. The first chill recorded was on the afternoon of March 16th. On the 18th she was curetted. She had from this time on from one to several chills every day, or at least with few exceptions, the chills frequently lasting for an hour. Her pulse on several occasions reached 180, and frequently was 150 and 160. Dr. Braasch made the examination of the uterine secretions, and reported finding the colon bacillus. His findings, I believe, were correct, for afterward fecal matter was discharged through the uterus. Her abdomen was greatly distended and, for a time, she had an attack of pleurisy, an endocarditis, a middle-ear trouble and an abscess of the upper jaw. She was delirious and had involuntary evacuations of the bowels. This in brief was her condition, and yet she recovered, and a year afterward was a little heavier than she ever was and said she was perfectly well. Her temperature was as high as 108° and occasionally was 107° and 107° and a fraction.

I have here brief reports of four other cases which Dr. Buttruff of the City Hospital kindly furnished me. These are all cases following abortion, either produced or otherwise, and illustrate what is ordinarily called sapremic infection, but some of which I am confident were of other forms of infection. Mrs. W. says she introduced a catheter to produce an abortion, and three days later she was brought to the hospital, having had two chills, a pulse of 140 and a temperature of 105°, and note how quickly she gets well after thoroughly cleaning out the uterus and following the treatment I have described. The other cases may have had sapremic infection.

Mrs. W. had an abortion, whether produced or not I could not tell. The after-birth was not expelled. A week later she was brought to the hospital. Temperature 103°, pulse 120. The effort to empty the uterus was not completely successful, so that she had only partial relief from her symptoms. Two days later I removed some pieces of after-birth, when her temperature and pulse at once dropped to normal. Mrs. O., six months pregnant, miscarried, fetus being expelled and after-birth retained. A week later she developed symptoms of sapremic infection. The after-birth was removed and she improved at once. Mrs. C., three months pregnant, aborted; fetus expelled; after-birth retained. She was taken to the hospital with a temperature of 101° and the uterus cleaned out as described. The recovery was perfect. Dr. Beckman kindly furnished me the following history:

Case is one of puerperal infection. Mrs. W. was confined on Sept. 7, 1906. On Sept. 12, patient was taken with chill, followed by fever and sweat. She also vomited. On being admitted to the hospital patient has a good deal of nausea and vomiting, also continues to have chills, fever and sweating, and has a hectic appearance. Streptococci were found in vaginal discharge. White blood count 23,600. The uterus was cleaned out as described above with but temporary improvement for a day or two. Her temperature would be almost normal, then she would have a chill and her temperature would go up to 102° or 103°, and at one time it went up to 104°. This continued until 23d of October, when the abdomen was opened. The blood-vessels about the uterus were thrombotic and enlarged. One vein was opened and a small amount of a purulent fluid escaped. The appendix was removed and the patient immediately began to improve. At no time after the operation did she have a temperature above 100°. This is an illustration of thrombotic infection of puerperal origin. These, I think, are the most hopeful cases of puerperal fever.

HOSPITALS FOR THE ACUTE AND REMOVABLE INSANE*

BY ALBERT M. BARRETT, M. D.,

Director of the State Psychopathic Hospital at the University of Michigan

ANN ARBOR, MICH.

It must be gratifying to those who are interested in the care of the insane, to see the progress along medical lines, which the institutions for the care of the insane have made in recent years. Institutions have grown to be something more than custodial asylums, and the fact that the care and treatment of insanity is largely a medical problem now dominates the policies which are followed in the extension of the state's attitude toward the insane. It is unfortunate that this principle was not better appreciated when the provisions which the state should make for the insane were first formulated. For had it been, many of the difficulties we are now concerned with, as to how the best ideas of hospital treatment can be adapted to our existing organizations, would be minimized. I think it will be agreed to by all of those who are familiar with the subject, that the growth of the idea of special hospitals for the observation and treatment of insanity in its early and acute forms is the direct result of the unusual interest in psychiatry in this country during the last dozen years, a sort of renaissance period, and has developed along with the more scientific point of view which is now dominant in so many of our asylums for the insane.

With the growth of this feeling came the appreciation of the need for separate institutions, specially designed for the care and observation of acute forms of mental diseases, equipped with laboratories and the best facilities for study and treatment, and to these institutions the designation of psychopathic hospitals has been applied.

In considering the need of special hospitals and the position which they must occupy in a state's organization for the care of the insane, it will be best to gain an idea as to the medical problems of insanity.

It is familiar to all that under the term insanity are grouped a variety of disturbances of the mind, which differ from one another in their mode of origin, the course which they follow, and their termination. As illustrations of this we know that certain types of insanity are related to certain specific causes, such as alcoholic forms of mental disease. Some types

almost irrespective of special treatment, are known to recover after a shorter or longer duration. Some types in the beginning have more or less acute features which subside, and the individual is left in a permanent state of mental weakness. Others, from the beginning, pursue a steady progressive mental deterioration. Some types end fatally, others seem to have little influence on the duration of life. From these few observations it must be evident, how different are the problems of the treatment and care of the insane, and how varied must be the provisions which an institution must make for dealing with this subject.

A very important problem which must be met, relates to provisions made for the committing and care of the curable insane. It is undesirable to send any patients who will recover from their mental disturbance into surroundings which will in any way embarrass them during their residence or in their life after recovery. The avoidance of these can best be met by sending them under special provisions to hospitals separate from asylums for the insane.

The care of the acute and recoverable cases presents very different problems than those relating to those who will never get well. It is an unfortunate fact that a large number of cases of insanity will not recover. With this class of cases the problems are to furnish such patients with the best treatment for their physical and mental conditions which modern medicine can offer, to give them comfortable care and by education and occupation attempt to check mental deterioration, and make such patients as useful to the state as possible. Apart from the treatment and care of both recoverable and non-recoverable patients, every institution has a duty to perform in furthering our knowledge of the diseases present among the patients. The spirit of scientific investigation should be the directing force of its medical work, not alone for its immediate benefit to the patient, but as a contribution to the broad field of medicine with the ultimate aim of giving us a clearer point of view regarding mental diseases in all their aspects, and of showing means to prevent the occurrence of these unfortunate conditions.

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At the present time we find the following plans for the establishment of special hospital arrangements for the acute and recoverable insane:

I. A psychopathic hospital as an integral part of each asylum organization. This is illustrated in the newly-built hospital buildings at many asylums, such buildings being organized along modern hospital lines, with laboratory facilities and utilized in connection with medical work carried on with a keen scientific point of view.

II. A psychopathic hospital as a special institution in the state's organization for the care of the insane, and in more or less intimate relations with the asylums of the state. Such an institution with its laboratories and administration, having a guiding influence on the medical work in the various asylums. This idea has shaped itself along two lines:

1st. A psychopathic hospital located at one of the state asylums, and yet being a central institution for all. This is at present the situation in New York, and is the plan proposed in Illinois.

2d. A psychopathic hospital in connection with the seats of medical instruction, but at the same time a central institution for the various state asylums. This idea approaching in many features the plan of the German University-Psychiatric Clinics. This plan is illustrated in the Psychopathic Hospital at the University of Michigan.

III. A third plan is to arrange wards or departments of a general hospital for the special care and observation of mental diseases, as illustrated in Pavilion "F" at Albany.

In any plans which may be proposed for the establishment and administration of hospitals for the acute and curable insane, certain essential conditions must be provided for.

The first object is to provide hospital accommodations where the mentally disturbed may be cared for according to the best standards of modern hygiene, and where they may receive all of the advantages in methods of treatment, which have proved of value in medical and surgical practice. Such hospitals should be under the charge of physicians who are fitted for their work by special training.

Second, the provisions under which patients may seek treatment in such hospitals and under which they may be held there should be framed and administered in such a way as to keep the patient as free from any more of the embarrassments, which legal processes necessitate, than possible, and at the same time giving those in charge of the treatment of such patients, authority to hold their patients in

sufficient control to make their treatment effective and insure discipline. The character of these hospitals and the conditions under which the patient was resident, should be such that after recovery and their return to civil life, they should feel no more embarrassment than if they had been physically sick, and a patient in a general hospital.

Third, such hospitals should have provisions for the admission and special care of persons who are mentally disturbed but who are not committable as insane—such states as one includes under the terms psychopathic conditions, neurasthenia and hysteria.

In the arrangement of the hospital it is best to have as many ward divisions as are needed to give ample opportunities for the separation of patients according to special needs. Provision should at least be made for separate wards for the following classes: (1) noisy and turbulent patients; (2) depressed patients; (3) mildly restless patients; (4) convalescent patients; (5) patients who are mentally disturbed but are not committed as insane; (6) infirmary wards for patients bedridden from physical illness.

The arrangement and furnishing of the wards will depend upon the class of patients to be cared for. The governing principle in all arrangements should be to approach as nearly as possible to the standards of hygiene and administration of the best modern general hospitals. Whatever experience and medical research has found of value in the treatment of the insane, should be made available. All wards of such a special hospital as we are considering, should be in charge of nurses, or attendants, who have by training and experience shown special fitness for their position. All of the best which any hospital has should be centered on the care of the acutely insane and recoverable patients. The lines of classification in acute stages of mental disease should be made more upon the conduct of patients than upon the question of their being curable or incurable.

In the care of the excited patients, mechanical restraints and powerful mixtures of quieting medicines should be replaced by the prolonged bath, watchful supervision by as many nurses as are needed to bring the desired results, and by medicines which can be administered with as perfect control as possible. When patients are isolated in rooms they should always be under observation.

The treatment of acutely depressed patients differs in many points from the care of excited patients. Here watchfulness against self-injury, freedom from depressing influences

quietness, and special facilities for feeding are demanded. Both patients who have been excited and those who have been depressed, during convalescence should be removed from the wards where they were treated at the beginning, to surroundings more cheerful, approaching more a home-like arrangement, with abundant light and exercising facilities, and all that can be done to prevent homesickness and discontent at a time when they still need careful hospital treatment.

As facilities for treatment of a variety of conditions, there should be provided arrangements for adequate hydrotherapeutic treatment, apparatus for massage and mechanical exercising and the rational use of electricity.

Every such institution as we have been considering should have in connection with it, laboratories for clinical diagnosis and for research into the phenomena of insanity. These laboratories should be thoroughly equipped with apparatus to carry on the work and should be under the direction of some physician who has had special training in laboratory technic, and who should be familiar with the clinical and pathological problems of mental diseases. Unless the one in charge of such laboratories has these qualities, and the proper point of view, the work will fall far short of its possibilities. The physicians who are in charge of the treatment of the patients in the acute hospitals must have at hand the laboratory aids for clinical diagnosis, and for the special problems of the diagnosis of nervous diseases. Few classes of cases in the field of medicine will call into use more varied lines of examination than acute cases of mental diseases. For while mental diseases are brain diseases, they are often associated with physical diseases, and may result from diseases of the body, of various sorts, such as the deliria of infectious diseases and states of exhaustion.

Insanity is a disease of the mind and its clinical manifestations are the problems of abnormal psychology. When analyzed, every case of mental disease shows disturbances of one or several fields of psychological expression. These can be best studied in the psychological laboratory, where the experimental methods of the laboratory can be utilized in acquiring accurate scientific data of the processes which are familiar to us clinically. The greatest progress that has been made in recent years in giving us a better understanding of some of the clinical symptoms of mental diseases has come from the careful psychological analysis of these symptoms and at the present time the most hopeful fields for work in psychiatry lie along these same lines. To provide

facilities for this work every special hospital should have a satisfactorily equipped psychological laboratory.

In addition to the clinical diagnostic and the psychological laboratory, provision should be made for the study of the anatomical material which may be available from post-mortem examinations. Research into the structural alterations of the nervous system which underlie the disturbances of physiological functions is one of the most fruitful fields for work. It is the class of work which must bring the changes in the classifications of functional and organic diseases. The changes from the one group to the other will increase as we acquire better methods of technic and are better able to interpret our findings. For some time there have been established certain constant and characteristic structural changes in the nervous system in certain clinical conditions. One can now speak of a histological process of general paralysis, of arteriosclerosis of the brain, and less certainly of some others. The opportunity to corroborate or overthrow a clinical diagnosis by the anatomical findings in the brain will be a valuable addition to the experience of the physicians who treat the patients clinically.

In the foregoing I have attempted to bring together the different provisions which the hospital for acute and curable forms of mental diseases should have. Any such hospital should have arrangements for the removal or transfer of any case when it may be thought advisable. The greater number of cases of insanity sooner or later pass into terminal states of dementia or chronic conditions whose treatment can be just as well conducted and at less cost, and with other arrangements, such as are provided for now, quite adequately, by all of our state asylums.

As to which plan of those mentioned earlier in this paper, is the best for the establishment and organization of these acute hospitals, there may be discussion. Personally, I feel that while every asylum should have special provisions for the care and study of the acute cases, it is best that somewhere in the state there should be a separate psychopathic hospital, and that this should be located in relation with a center of medical instruction, but at the same time it should have a very intimate relation with the entire state's system for the care of the insane. It is my fortune to be connected with such an institution, which is, I believe, the first psychiatric hospital and clinic to be established in this country.

The field of work planned for the psychopathic hospital was along four lines: (1) the

care, observation, and treatment of patients; (2) clinical and anatomical research into the phenomena of mental diseases; (3) instruction of medical students; (4) the establishment and maintenance of a co-operative work between the asylums of the state and the psychopathic hospital.

As regards the first of these, viz., that relating to the care of patients, it was found possible under the conditions present, and with such a limited number, to carry on very thorough clinical studies, further mention of which is here hardly in place. The institution was equipped with a very complete hydro-therapeutic apparatus, and it has been used very extensively as an aid in treatment. As a result of experiences of the first year in the relative values of treatment in such an institution and the asylums, it is difficult to draw any far-reaching conclusions. The great advantage, however, as far as the patients were concerned, was that of the 100 patients under treatment during the year, 36 patients suffering from mental diseases were able to receive treatment and be discharged as recovered, or much improved, without having the experience of having been committed to an insane asylum and were placed in as nearly as possible the same condition as if they were suffering from a physical disease.

As regards the second part of the work, that of clinical and pathological research, it was not thought best to undertake any special problem at the beginning, except to carefully and systematically work up, with an appreciation of the problems of neuropathology, all of the anatomical material which was sent to the laboratory from the asylums, in those cases in which the clinical studies had been thorough enough to make any findings valuable, being confident that problems worthy of further pursuit would shape themselves as material was collected. Already this has been the case, and several pieces of anatomical-pathological research are under way.

The feature of the instruction of medical students was one of the most important and interesting possibilities of the new work. During the last semester of the school year, weekly clinics were given before the students of the senior class. The aim was to apply to psychiatric instruction the same methods of teaching, that of the clinical demonstration and lectures, which are followed in the other clinical branches of medical instruction. One had, however, to realize the specialized character of the work, the preparation of the medical student for gaining the clinical point of view of the psychiatrist, and the new class of

symptoms which the student must consider. In a limited required course of study the main aim must be to develop in the student a correct point of view on which to build his later experience with cases of mental diseases, and to emphasize, above all, the element of correct diagnosis, which at the present time in psychiatry almost invariably makes the prognosis, to appreciate the limitations of home treatment and to train him to make a clear, comprehensive medical description of what is present in a case.

That part of the work of the psychopathic ward relating to the establishment and maintenance of a harmonious and helpful co-operation between the asylums and itself, has, I think, been worked out quite satisfactorily, and the institution has shown its usefulness as a part of a state system for the care of the insane. Without any dictatorial position, it has been found possible to interest the asylums and to enlist their co-operation. The plan adopted was for each institution to strive to develop its own medical work to the point of highest efficiency, and to place the psychopathic ward in the position of an institution to which all could look for guidance and stimulation in the development and conduct of its medical work. It was to be an institution at which the assistant physicians of the asylums could receive special training in clinical and laboratory work, and where they could pursue research problems. It was to have a laboratory to which they could send anatomical material for study and from this their own clinical records and experiences be completed, and, perhaps, more than all, it should be an institution which could act with unifying influence in a state organization of institutions, with elevated ideas, but varying points of view. In the achievement of this end the director of the psychopathic ward, as pathologist of the state asylums, visited the various institutions from time to time, and in one month each asylum sent an assistant physician to the psychopathic ward for instruction in clinical and laboratory work. All of the various asylums adopted a system of case study and recording similar to that at the psychopathic ward. At each institution one man was familiarized with the technic of autopsy and making the preparation of material, and during the first year material from over 100 autopsies was sent to the laboratory of the psychopathic ward.

Suffice it to say, that at the end of the year's work the medical work at each asylum has reached a higher plane, and there has been a harmonious and systematized co-operation between the asylums and the psychopathic ward.

WHAT SHOULD THE PRACTITIONER READ?*

BY C. E. McCAULEY, M. D.,

ABERDEEN, S. D.

To the young physician, especially, this question comes with great force. He sees before him the thousands of known things which he does not know, and the tens of thousands of unknown things which he hopes to be able to help unravel. He plunges into his books and periodicals, buys everything the wily book agent has to offer, and burns great quantities of oil only to find at the end of two or three years that he has a very hazy view of the very things he has been trying to learn. He finds piles of words heaped upon one another in dry and cloudy volumes without end, and that all his work has been a more or less triumphal march into nothingness. He has read and re-read about treatment and pathology, about diagnosis and surgery, until his mind is a chaos of disordered facts and theories.

What is the cause of this? Is it the fault of the man or of the reading? Both. The man has read without system. He has taken for granted that everything he has read is true. He has not weighed and considered, but has blindly followed the books and periodicals.

On the other hand, the right kind of reading is hard to get. The desire to write and publish is so strong in many physicians that they write when there is nothing to write about, or they re-write the production of another with slight changes. What is worse, they write of things of which they have no practical knowledge, advocating measures which have no value, however well the theory may sound.

This hypertrophy of the writing center is working untold harm in the medical literature of the day. Writing and research are not at all in proportion. There is no reason for so many journals. Many issues may be laid aside unread without fear of having missed anything.

How, then, can a man choose his reading so as to get the best results from the limited time at his command? Medical reading may be divided roughly into two classes, books and periodicals. The selection of our books is as delicate a task as the selection of remedies for our patients. Our books are our prescriptions for our mental selves. None of us would call in consultation for one of our patients a man we did not know or in whose ability we had no confidence; yet we permit the book agent to load our shelves with books written by men of whom we know nothing.

The text-book is for the beginner, not for the A No. 1 man. In many physicians' libraries are a half dozen text-books on any given subject, all covering practically the same ground. The man who reads wisely will early forsake the text-book for the system, the cyclopedia, and the monograph. The text-book indicates only the most prominent points of a given subject; the system or monograph covers all that is known of the subject. Let a man skim over "pneumonia" in a dozen text-books, then try to get a picture of the disease in his own mind. Then let him spend one-half as much time reading the same subject in the "Twentieth Century Practice," or the "Nothnagel," and he will have not only a clearer view of the disease but a comprehensive picture which will stay with him.

While the system or monograph is usually the best, it may be the worst, medical literature. If written by a faddist or an enthusiast, beware of it. Here, as in everything else, the physician must use discrimination. His critical sense must be keen and alert. In medicine there is no such thing as authority; science abhors authority. It requires demonstration of facts, it believes nothing on anyone's authority. True knowledge must be founded on observation, and any book that is not founded on the author's personal work is better left unread.

Hence if the physician is to profit by the precious time spent in book-reading, let him read only those books which cover their subject completely; works written by men known to be masters of the subject. Let him read these systematically, taking one subject at a time and exhausting it before he begins another. Case-reading will never make a broad man, because the physician will not have time to read up each case thoroughly. If he tries to read up typhoid, chlorosis, and hysteria in one day, he will have a very hazy view of all of them; but a careful, complete reading of each subject will so fix it in his mind that future readings can be mere reviews.

Probably two-thirds of the reading of physicians is from medical journals. This is a broad subject and a difficult one. The mass of medical literature in periodical form is appalling, and the busy practitioner cannot hope to cover even a small portion of it. While there may be some good in every journal, about eighty per cent of the medical publications cause worse than a waste of time to the one who tries to read them.

Do not take a journal which is run in the

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interests of a drug firm. Do not take a yellow journal, one which deals in medical abnormalities, pseudoscientific vaudeville, and sexual perversion.

Do not read journals that try to help the physician gain practice through any channels save professional excellence.

Do not read journals abounding in short cuts, special recipes for disease, and other like abominations.

Be careful of the journal using such terms as "diathesis," "bilious," "congestion of the brain," etc. Accurate methods are doing away with such terms.

The dividing line between ignorance and knowledge is very narrow sometimes, but the

thinking man can usually distinguish between the wheat and the chaff.

The average physician has time to read only one or two journals. Let these be high class, and let him *read* them, the hard things as well as the easy things. In this way, and in this way only, will he keep up with the newer things in medical science. In this way a good medical journal takes the place of many post-graduate courses.

Of course, every man is a law unto himself in medical reading as well as in everything else, but I think few men read with any system and few read with discrimination. I have thought that this subject might be taken up in our county societies and reading courses adopted, something on the Chautauqua plan.

CRETINISM, OR INFANTILE MYXEDEMA*

By WM. EDWARDS, M. D.,

BOWDLE, S. D.

Myxedema is said to have been first described by Sir Wm. Gull in 1873 under the name of "A Cretinoid State Supervening in Adult Life in Women."

In 1877 Ord gave it the name of *myxedema* as an essential condition in the cretinoid affection observed in middle-aged women. In 1880 Charcot proposed the name *cachexia pachydermique*.

In 1882 Reverdin described the train of symptoms that sometimes follow the operative removal of the thyroid gland, and reasoned that the symptoms were due to the loss of the thyroid function.

In 1883 Kocher applied the name, *cachexia strumipriva*, to the post-operative cases. His first impression was that the symptoms were due to injury of the structures of the neck, but later he subscribed to the theory of Reverdin.

Under the general name of *myxedema* are included three groups of cases: (1) cretinism; (2) myxedema proper; (3) operative myxedema.

There are two varieties of cretinism, the endemic and the sporadic. I shall confine my remarks to sporadic cretinism, or infantile myxedema.

Sporadic cretinism may be congenital or may appear at any time before puberty. Osler described it as being "characterized by a disturbance of the growth of the skeleton and soft parts,

a remarkable retardation of development, an extraordinary disproportion between the different parts of the body, and a retention of the infantile state with a corresponding lack of mental progress."

Sporadic cretinism is a rare affection and is not limited by geographical lines. It is always associated with some pathological condition of the thyroid gland. The gland may be congenitally absent, atrophied, or enlarged. We can readily understand why there should be a disturbance when a normal organ is absent or atrophied; but it does not appear so clear why an hypertrophy of an organ should give rise to a condition identical with that caused by the absence or atrophy of an organ. We are in the habit of saying that like causes produce like results; but in cretinism we have an instance of contrary causes producing identical results.

This probably is only apparent, because an hypertrophy interfering with the function of a gland might be equivalent to an atrophy with loss of function.

Symptoms.—The cretin is a mild, passive, grinning imbecile, with stupidity stamped on every feature. The skin is thick, dry, harsh, and hard, and for this reason Charcot called the disease *cachexia pachydermique*. The hair is sparse, dry, coarse, and straight. The scalp is swine-like, thick, and fleshy. The forehead is low and fleshy; the nose is broad at the base

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and turned up at the tip, forming the saddle nose type. The eyes seem small and wide apart. The face is broad, thick and featureless; the mouth is nearly always open, and the large tongue protrudes between the ugly, decayed teeth. The lips are thick and shapeless; the voice is peculiar, the pitch being low and the tone harsh and grating. The limbs are short and thick, the gait duck-like, and the movements slow and awkward. The cretin is a dwarf, with short, thick body, tumid belly, and umbilical hernia. The appearance suggests edema, but there is no pitting on pressure.



Lena, the cretin, 8 years old, and her bright little sister, less than two years old. Taken about Aug. 1, 1906.

Treatment.—Previous to the discovery of the therapeutic properties of the thyroid gland, the treatment of cretinism was absolutely hopeless, but thyroid feeding is a therapeutic revelation. The improvement is usually prompt and rapid. The first noticeable improvement is a softening of the skin and tissues. Instead of being dry and hard, the skin becomes soft, moist, and flexible. The face soon begins to lose its hideous appearance, and all parts of the body take on a more natural aspect. The idiotic smile disappears, and rays of intelligence may be seen in the countenance. The muscular power improves, and the movements become more active. But the most remarkable change is the rapid

increase in stature. Cases have been reported in which the increase in height amounted to eight inches in six months. In the single case that I have to report, the growth was four inches the first four months of treatment.

Prognosis.—In view of the wonderful physical transformation following thyroid feeding we may naturally inquire if the patient is ever entirely cured. Taking the physical aspect of the patient, he appears to be cured, but the improve-



Lena, the cretin, after ten months' irregular thyroid treatment.

ment in the mental condition is not so satisfactory. The little girl, eight years old, whose photographs are exhibited, has been taking desiccated thyroids with some interruptions for about ten months, and while there has been great improvement in the physical condition, she has not made encouraging progress intellectually.

In a recent article, Dr. C. H. Mayo says: "The mental development is only sufficient in most cases to convert a passive, helpless imbecile into an active, restless, and destructive idiot." Osler reports one case of apparent cure. It is quite likely that the earlier the treatment is commenced the better the prospects of mental improvement. It seems that the older the patient

when the disease develops the better the mental condition resulting from thyroid feeding.

Cured cases of myxedema seem to return to their normal mentality, and we infer that cured cases of cretinism will have about the same

mental condition they had before the disease developed, but the mental condition considered normal in a child of two years would be regarded as pathologic in a child of ten or twelve years.

THE MEDICAL EXPERT WITNESS

By THEODORE L. HATCH, M. D.

OWATONNA, MINN.

At the present time we have a peace conference sitting at The Hague. The contemplation of this session partakes somewhat of the ludicrous when we take into consideration the fact that practically all of the greatest nations participating are increasing their armaments, and are vying with each other in devising means to destroy human life and put their prospective antagonists out of business.

Of late years much has been said about the humanity of war in the way of projectiles that will produce a minimum degree of injury, and consequently diminish the mortality, but war is war, and notwithstanding all of the peace congresses that may be held, the world will have made a long advancement on its way to eternity before the millennium of universal peace prevails.

While the above is true of nations, human nature, in all of its phases, is constituted very much the same, and the time is very far remote when we shall not have legal battles in the courts in connection with financial controversies, and in the meting out of justice in criminal cases.

While the law may have taken its origin primarily from a variety of sources, it can be traced in its original elements to that higher than human law which had its origin with the Creator, whose great object is justice, and which is founded upon that highest of all principles, truth. The object of any proceeding in the way of litigation should be to separate genuine from spurious evidence, and evolve and develop this principle of truth, regardless of him who may be compelled to suffer for it.

However, it is to be regretted that instead of this, falsehood often prevails, the law becomes perverted and prostituted in the interests of wrong, and the banner of justice and truth is trailed in the dust.

A variety of causes act as factors in producing this condition. Lawyers become over-zealous in the interests of their clients. Sometimes this is carried to such an extreme that the principle of right is entirely ignored. It is often the case that it requires only a very small sum of money

to blind a witness to certain glaring facts which he knows to be true, or to lead him to discover other facts which exist only in the imagination of himself and those in whose interests he testifies. It is humiliating to the profession, but none the less true, that there are members of the medical fraternity to whom this will apply.

We have had some disgraceful illustrations of this in this country within the last year, and it is a question whether our own state of Minnesota has been entirely exempt from it. It is probable that it will be a long time before this evil will be eradicated; but there is no question as to a possibility of an improvement in the situation, yet this can be consummated only by the coöperation of the legal and the medical societies.

The first step in this direction should be the radical and total elimination of the hypothetical question. The hypothetical question is a fabrication of the wily attorney, which, instead of evolving the truth and thereby promoting the cause of justice, confuses, and embarrasses (often harasses) the witness, and also brings chaos into the jury-room, thus defeating the very object for which it is claimed to be intended. It is often the case that the object of its introduction is to bring out evidence that is illegitimate and distorting in its character.

I cannot emphasize too strongly the point that the hypothetical question has no rightful place in the legal proceedings of a court. Neither is there excuse for it. One or two simple questions plainly put will do more towards developing the real facts than a dozen questions that have the ambiguity of the hypothetical one.

Now as to the medical expert: Who shall be the medical expert, and what his credentials?

His first qualification should be a conscientious regard for the truth. In other words, he should be an honorable gentleman.

The second qualification should be a knowledge of the particular subject upon which he shall be called to testify, acquired by special study and experience, and which knowledge

should be far superior to that of the general practitioner.

The medical expert should never be chosen by either party in litigation, but should be appointed by the court. Any number might be chosen, as per agreement of the parties interested, and the matter of the expense could be arranged in the same way, or according to orders from the court.

With the elimination of the hypothetical question, the appointment of the expert by the court, and the protection of the witness by the court from the browbeating and bullying in which many lawyers so often indulge, but which no

honorable man will practice, the profession would be largely protected from the stigma which exists under the present regime, the rights of the litigants would be more completely conserved, and equity and justice would hold a more legitimate sway. As before indicated, this can be brought about only by a combined movement upon the part of the two professions.

Certainly the high-minded members of either profession can but desire a betterment of present conditions nor be otherwise than willing to exercise all due influence in effecting its consummation.

A CASE OF RUPTURE OF THE LIVER, WITH RECOVERY

By W. H. AURAND, M. D.

MINNEAPOLIS

On February 28, I was called to see W. S., aged 15, who gave the following history: After eating a hearty supper he had gone skiing, and when about half way down a steep hill, while going very fast, he fell, striking heavily on the abdomen. He was unconscious for a few minutes and was picked up by his companions and carried home. On examination I found the patient very pale, vomiting constantly; temperature subnormal; abdomen tense but not rigid; slight pain on palpating abdomen; pulse weak, 110; expression of face was anxious and pinched. Urine was voided in my presence, which was dark but contained no blood visible to the naked eye. The patient remained in about the same condition until March 2d, when he began to vomit fecal matter. All our efforts thus far to induce bowel movement had been fruitless. On March 3d the boy was getting rapidly worse. The abdomen had become very much distended, and presence of fluid was easily elicited by percussion.

Operation.—He was removed to St. Mary's Hospital and an exploratory laparotomy was made with the assistance of Dr. W. E. Rochford. This would have been done sooner, but the patient's general condition was such that he would have probably died on the table. The operation revealed the abdomen full of dark blood, and a band of adhesions was found around the cecum, which caused total obstruction. The adhesions were removed, and immediately gas began to bubble through the bowels below the point of obstruction. The source of hemorrhage was next sought and found to be due to a rupture of the liver large enough to contain one's hand. The abdomen was washed out hastily with normal saline solution and the

wound closed without drainage. The prognosis was deemed very bad, and the parents of the boy were told that there was no hope of recovery, but to our happy surprise he did very well. The obstruction was entirely relieved, and there was no more vomiting. The bowels moved naturally the next day. The temperature after operation was 102.2°; pulse 110; respiration 38. Adrenalin chloride solution, 1-1,000, gtts. xx, was given every three hours for a few days, and the patient was given nutritive and saline enemas alternating.

The second day after the operation some induration and redness was noted midway between the incision and the crest of the right ilium, slightly tender on palpation. This condition increased gradually, with considerable swelling and pain till the sixth day after the operation, when one-half pint of pus was evacuated through the lower part of the wound after removing the stitches. A rubber tube was introduced for drainage, and moist normal saline dressing applied, which was changed every few hours.

On March 11th, the eighth day after the operation, there were signs of localized peritonitis around the umbilicus above and to the left of the incision, tender on pressure. The tongue was heavily coated and dry. Hot saline dressings were ordered, which were changed often.

The wound drained well, and the boy improved from this time on, being hungry at all times. Liquid diet was begun the third day after the operation, and on the sixth day semisolid diet was nicely taken. The leucocyte count was not made till March 12th, the ninth day after operation, when he had a count of 40,000. On the sixteenth day after operation the leucocyte count

was 20,000. On the twenty-second day after the operation the count was 14,000, and thereafter gradually went to normal.

The patient was discharged from the hospital on April 17th, and by May 1st he appeared to be

fully restored to health. He is wearing an abdominal support to prevent hernia.

This case is reported because of the unusual accident and the high mortality from cases of rupture of the liver.

DOUBLE CONGENITAL ANTERIOR SUBLUXATION OF THE KNEES

By EMIL S. GEIST, M. D.

MINNEAPOLIS

The following case is reported on account of its seemingly extreme rarity, and with a view of attracting attention to the subject. This deformity has frequently, and, according to Drehman, somewhat erroneously, been called *genu recurvatum*.

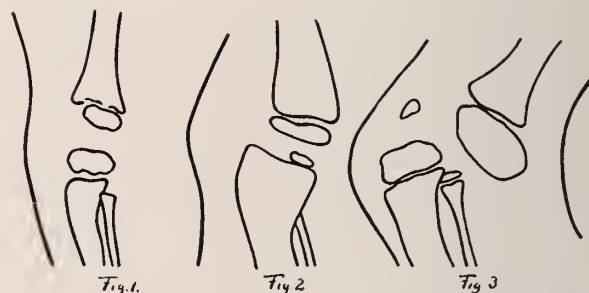
Baby N., 10 months old, twin child. Family history is negative. Several older brothers and sisters are absolutely normal. Twin sister shows no deformities. From statements of parents, labor was not too difficult and did not present any abnormalities. Head presentation in the case of each twin. Parents report that considerable hyper-extension with total impossibility of flexion at knees was present at birth, and the first few months following. Extreme pes equinus was also noted at birth; otherwise the child was normal. No asphyxia neonatorum. The child was nourished by the mother.

On examination one finds a well-nourished, healthy child of normal proportions for its age. The knees are held in an extended position, and at the first glance one is reminded of the spastic condition of the limbs, as seen in a severe case of Little's disease. The reflexes, as one is able to elicit them, are normal. On attempting flexion, one is able to bend the knees very slightly to an angle of about 165° - 170° . Any attempt at further forcing evidently elicits pain. Quite a degree of hyper-extension can be passively produced. There exists a little lateral mobility at the knee-joint. On palpating the knees the condyles of the femora can very distinctly be felt in the popliteal spaces. In front the patellæ cannot be felt. They seem absent, though they may be present in their rudimentary cartilaginous state.

The upper anterior joint surfaces of the tibiæ cannot be made out distinctly, on account, no doubt, of the tension on the anterior ligaments.

The extensor groups of muscles are evidently much shortened, and on attempting flexion one has the feeling that they present the greatest obstacle to complete flexion. The anterior leg

muscles seem somewhat hypertrophied, while the posterior ones are somewhat atrophied. There is little range of active motion present at the knees, and this is mainly in the sense of hyper-extension. Both feet present a condition of pure pes equinus.



The etiology in the case can no doubt be laid to the door of the abnormal position in utero together with the increased intra-uterine pressure. The Röntgenograph (Fig. 1) shows little, as the bone ends are largely cartilaginous at this age. The bone ends seem as yet only little disturbed in their mutual position; this agreeing with most early cases reported, namely, that the dislocation progresses as the child grows older and bears weight on the leg.

As to treatment: So far nothing has been done to correct the knee deformities. Preliminary to attempting reduction maneuvers it was thought safer to correct the extreme equinus position of the feet, which was possible after a subcutaneous Achillotomomy (Bayer). During the period of anesthesia further bending of the knees was attempted, but was impossible, as the risk of infraction was too great.

The most complete work on the subject was done by Drehman (*Zeitschrift für Orthopädische Chirurgie*, Bd. VII, 1900), and by Wehsarg and by Bacilieri (*Archiv für Orthopädie, Mechanotherapie und Unfallheilkunde*, Bd. III, 1905). The last-named author reports 137 cases collected from the literature, together with those reported by himself.

THE JOURNAL
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AND
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Minneapolis

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AUGUST 1, 1907

HOTEL RATES AND OTHER INFORMATION ABOUT THE STATE ASSOCIATION MEETING

PRINCIPAL HOTELS

	Rooms.	Rates.	
		Amer. Plan	European Plan
The Spalding	275	\$3.00 and up	\$1.50 and up
The Lenox	200	2.50 to \$3.00	1.00 to \$3.00
The McKay	128	1.50 to 2.50	No rates
The St. Louis.....	200	2.00 to 3.00	1.50 to 3.00

All these hotels are within two blocks of the meeting-place. It will be well to reserve rooms at once, as many rooms are either already taken by resident guests or will be taken by summer tourists.

There will be a boat-ride on the lake and bay on both Tuesday and Wednesday evenings, and a ride around the boulevard on Wednesday morning, starting at 8:30 o'clock. Sight-seeing cars will be arranged to take about town those guests not attending the scientific sessions.

RAILROAD RATES

The letter printed herewith was received by Dr. McDavitt in response to his request for reduced rates to the meeting of the State Association.

Chicago, July 8, 1907.

Dr. Thomas McDavitt,
Sec'y Minn. State Med. Assn.,
St. Paul.

Dear Sir:

Replying to your favor of the 5th inst. requesting reduced fares account of your State Association meeting. As you are aware, the local fares in Minnesota have, by act of legislature, been reduced to two cents per mile, and you will no doubt appreciate that the railroads could not announce any further reduction under the circumstances, as the new fares will afford the same rates as have been announced heretofore for occasions of this character, thus placing them on the basis of a fare and one-third of the old rates.

Respectfully,
EBEN E. MACLEOD, Chairman.

The 2-cent fare makes the rate so low from all parts of the state that the attendance should be far in excess of former meetings at Duluth. The time of year and the place of the meeting should alone guarantee a large attendance, but the interest in the work of the profession and the value of the social contact of man with man make a stronger call upon every physician in the state.

The professional man who shows no interest in the organized work of his profession is looked upon by every intelligent person as a man who either regards himself as superior to his fellows or who is afraid to meet them and discuss professional subjects with them. We believe this to be a true and just estimate, and the burden of proof to the contrary falls upon the man who always stays away from such meetings.

Put aside your work, and go to the Duluth meeting. Nature will take care of your patients.

The Council meets Monday morning and the House of Delegates Monday afternoon.

A SANE FOURTH OF JULY

The agitation which was carried on the past six months through the agency of the Hennepin County Medical Society, and by the aid of the Minneapolis newspapers, for the abolition of the senseless, but dangerous, method of celebrating the anniversary of the Declaration of Independence, has borne fruit in lessening the number of serious injuries in the city of Minneapolis. So far no deaths have resulted that we know of, and the hospitals are conspicuous for the absence of the characteristic cases, though we did not escape altogether, and the celebration was not by any means "safe and sane."

Much credit is due the Journal and the Tribune for their work in warning parents of the dangers of fireworks, and to them and the Elks, and especially the chairman of the committee, Mr. Goddard, for the work done in providing a sensible substitute to amuse the children. The mayor's bluff that arrests would be freely made

may have been of some benefit, but as it was not carried out, his proclamation next year will be a greater "dead letter" than ever.

It seems a pity that some effort should not be made to enforce the law in cities like Minneapolis, which strictly prohibit the firing of all forms of fireworks or explosives without the written consent of the mayor or city council. When the officials awaken to the fact that public sentiment favors this change then we may expect the administration to act more vigorously, but how much better for the community it would be if, after investigation, such as has been given the matter by physicians of the Hennepin County Medical Society, the mayor should courageously do what he finds to be right and not wait for the community to push him.

The day must come here, as it is coming over the entire country, when reform in this matter will be realized, and when the public realize what the physicians, or rather the surgeons, know, we may expect results. It behooves the medical profession, therefore, to let the public know more about the casualties that take place every July 4th.

We regret to learn, through a correspondent, that two of our prominent, or perhaps we should say promising, young physicians, members of the Hennepin County Society, went to the country and forgot all about the good work the society had planned for Minneapolis. A news item on another page records their doings.

LOCAL LIBRARIES AND LOCAL LITERATURE

Literally, there is no end to the making of books, medical as well as others. This, with the multiplication in recent years of really meritorious medical journals, makes it quite impossible for the physician of ordinary means to individually own even a small portion of them. In a few of the larger cities this want is supplied by large medical libraries, but for all small and medium-sized towns scarcely any provision has been made. In the May issue of the Illinois Medical Journal, Dr. Joseph Robbins tells how Quincy, Illinois, has solved this problem. Finding some apathy in the local county society in the matter of providing a library, a few of the physicians formed and incorporated a medical and library association. Each member paid an initiation fee of five dollars and subsequent yearly dues of four dollars. During its ten years' existence the society has had an average membership of fifteen. From this source nine hundred dollars has been paid into the treasury and invested in periodicals and books, so that during this time the members have had access to the very best of the current medical and surgical literature and

also to many of the standard works. Each periodical, as it is received, is passed in rotation among the members, each one keeping it one week, and, when all have seen it, it is bound and placed in the library. As would naturally occur, donations have been made to the library from time to time, and now it contains twelve hundred and fifty volumes. Several of the smaller cities in Minnesota not now provided with libraries yet contain a sufficient number of physicians to carry out successfully a similar scheme.

An excellent addition to such a library would be a collection of all the records referring to local societies and their members, and of reprints of all the literature on medical or other scientific subjects contributed by the local profession. In addition to the practical and impersonal value of such a collection at the present time it would, in the future, be an important source of historic data, and in that way would be of considerable interest to us in later years, or to those that come after us.

OLIVER WENDELL HOLMES

A recent number of The Clinical Review contains a delightful article by Dr. J. H. Mason on "The Medical Life of Oliver Wendell Holmes." Surely no one ever lived a fuller, more joyous life than the genial autocrat, and we read gladly everything that can be written of him, but his medical life is of course most interesting to those of his profession. In spirit we follow him through his academic course, watch him anxiously as he wavers between law and medicine, rejoice with him when, having finally decided on the latter, he betakes himself to Paris, there to enjoy the teaching and friendship of the most eminent medical men of the time. The influence of Louis, who was adored by his students, of Lisfranc, "a great drawer of blood and hewer of members, and who regretted the splendid guardsmen of the old empire because they had such magnificent thighs to amputate," of Dupuytren, "who marched through the wards like a lesser sort of deity," all went to make of the brilliant and impressionable young American a real scientist and an independent thinker. After his return to America, he, in his turn, became a teacher in Harvard Medical School, and was, too, a power for good with those who came under his influence. His lectures in anatomy were as brilliant and witty as were his writings and speeches on other subjects, and to him was given the noon hour, as he only was able to hold the attention of the jaded students, who had already endured four hours of lecturing. His greatest contribution to medical science was his essay on "The Contagiousness of Puerperal Fever," of which he says

himself in "The Professor at the Breakfast Table": "I held up to the professional public the damnable facts connected with the conveyance of poison from one young mother's chamber to another, for doing which humble office I desire to be thankful that I ever lived." When we consider that the germ theory, and therefore the nature of contagion, was at that time quite unknown we can only stand in wonder at the insight displayed in this paper—and to-day but little can be added to the final directions given over sixty years ago by Dr. Holmes for the guidance of the obstetrician. At the time his views were received by many of the leading medical men with ridicule and contumely, one of them saying that he preferred "to attribute these cases to accident or Providence, of which I can form a conception, rather than to a contagion of which I cannot form any clear idea."

And so we follow Dr. Holmes through his long and brilliant life till at last we see him, almost "the last leaf on the tree," but still enjoying to the full all the sunlight and beauty of the world.

The thought comes to us as we review such a life that, though there are but few Holmes's, there have been, as we all know, many doctors whose lives were as busy, whose purpose was as true and whose influence as beneficent, though they may not have been heard of beyond the narrow confines of a country doctor's practice. Why do we not in our county societies and local journals perpetuate the memory of these men? The Ramsey County Society has already begun the collection of the biographies of local medical men. Let other county societies follow suit.

HOSPITAL INTERNES

A recent article on hospital organization by Dr. Goldwater, in the *American Journal of the Medical Sciences*, deserves the careful consideration of every physician interested in the control of hospitals. In all our hospitals there are many problems requiring solution, and perhaps none more so than those connected with the scientific work. So long as the visiting physician depends for his remuneration on the prestige and opportunities for careful work which his position gives him, it is only fair that every effort he may make to do good work should be loyally seconded by the hospital. In this connection nothing is of more importance than the work of the interne. A physician who gives a portion of each day to the care of indigent hospital patients is entitled to the assistance of an intelligent and well-trained interne. If the latter has been properly instructed in his school work he will view the year or two spent in the hospital as an essential part of the medical course, and the same close attention to duty demanded in

the school work should be exacted and freely given in the hospital work.

Every patient in a charitable hospital should have his history carefully taken by the interne at as early a date after admission as is practicable, and under the chief's direction a careful record of the physical findings should be made. From time to time any interesting changes should be noted. It is only in this way that medical science is advanced and the chief and the interne receive a proper return for the time spent. Instruction in history-taking should be a part of the ward class-teaching in every medical school. The treatment should be carried out as nearly as possible in accordance with the views of the visiting physician and a resident should at all times be available to attend him on his rounds, so that by a mutual interest in the patient and a proper interchange of views each may be instructed. Every hospital should have in its service an interne whose duty it is to look after the pathologic work, and, in all large hospitals, at least, a man should be provided who is capable of doing high-grade scientific work. Also, as the interne sees the relatives most often and comes into most intimate contact with them, the securing of permission to do post-mortem operations is largely in his hands.

A fault of many hospitals is the lack of trained anesthetists. The young graduate who has given few, if any, anesthetics in his life is at once thrust into a position of the utmost responsibility in an operation, often with much inconvenience to the surgeon and occasionally with disastrous results to the patient. Every institution should have a trained anesthetist so that all anesthetics may be given under his direction, if not actually by him, and through him the interne should be properly instructed in this work.

If much is expected of the interne, however, naturally something must be offered in return. No physician can do good work unless he has sufficient time at his disposal, and this is not possible for the resident physician when he has an excessively large service. From fifteen to twenty-five patients in an actively changing service is about all that an interne can properly attend to. As he accepts his position solely for the purpose of what he can learn, he should be permitted and expected to examine each case under his care—consistent with the patient's welfare—in such a manner as to become properly familiar with it. In the operating-room also the resident should not be crowded out by the chief's assistants, but should have such a position as will enable him to clearly understand each step of the operation and to acquire the necessary technic. The resident, however, should always bear in mind that nothing is so important as being started with proper methods of work and

study, and however extensive his personal experience in operations has been it can never make up for intimate association with competent teachers.

the Ortonville Commercial Club for the use of their rooms. Carried unanimously.

E. JAY CLEMONS, M. D., Secretary.

REPORTS OF SOCIETIES

ABERDEEN (S. D.) DISTRICT SOCIETY

The mid-summer meeting of the Aberdeen District Medical Society was held July 20, the president, Dr. Chas. E. McCauley, of Aberdeen, being in the chair. The following were in attendance: Drs. R. D. Alway, Chas. E. McCauley, H. J. Rock, Chas. B. Mallery, M. C. Johnston, and E. Jay Clemons, Aberdeen; Dr. V. M. Miller, Mellette; Dr. D. Geib, Groton; Dr. J. H. Martin, Summit; Dr. J. W. Powell, Turton; Dr. R. R. Jones, Britton; Dr. John Miller, Andover; Dr. J. J. Diertz, Northville.

Clinical cases were reported by Drs. Chas. E. McCauley, H. J. Rock, Chas. B. Mallery, M. C. Johnston, D. Geib, and E. Jay Clemons.

The paper of Dr. J. J. Deertz, on "The New Anesthetic," was discussed by Drs. Alway, McCauley, Miller, Jones, M. C. Johnston, Mallery, Rock, and others.

The name of Dr. H. G. Harris, of Wilmot, was received for membership, to be acted upon at the next meeting.

Dr. R. R. Jones, of Britton, expressed, in behalf of his family, thanks for the attention certain physicians had given them during the care and loss of his son.

Dr. R. D. Alway moved that Dr. Deertz be requested to send his paper to THE JOURNAL-LANCET for publication, and the motion was carried.

The committee appointed to investigate the stand the members are taking in regard to insurance examination fees reported as follows: "We regret to be compelled to announce that the report is true. We found positive evidence that more than one member of this Society has discredited himself by doing this work for a fee below our schedule in direct opposition to the resolutions passed by the Society, and we recommend that these guilty members be suspended from our Society." Committee: Drs. H. J. Rock, D. E. Arnold, R. D. Alway, F. M. Crain, and H. J. Herman.

Dr. Alway moved that the report of the committee be accepted and the committee discharged. The motion was carried unanimously.

Dr. Rock moved that the report of the committee be mailed to the chairman of the committee on fees of the State Association. This was carried unanimously.

Dr. Alway voted that a vote of thanks be extended to Drs. Korn and Bolsta, and also to

WRIGHT COUNTY SOCIETY

The seventeenth regular meeting of the Wright County Medical Society was held at Buffalo Monday afternoon, July 1st. The following program was carried out:

Remarks by Dr. F. A. Knights, of Minneapolis, councillor for the sixth district; paper, with case histories and charts, on "Tuberculin Treatment of Tuberculosis," by Dr. Geo. D. Head, of Minneapolis; paper on "Gland Tuberculosis," by Dr. E. P. Hawkins, of Montrose; paper on "Symptoms and Diagnosis of Renal Tuberculosis," by Dr. C. L. Larsen, of Buffalo. The papers were thoroughly discussed and the meeting was very interesting.

Dr. Victor Roseau, of Maple Lake, sent in his application for membership to the society.

JOHN J. CATLIN, M. D., Secretary.

BLACK HILLS (S. D.) DISTRICT SOCIETY

The Black Hills District Medical Society met at Franklin hotel, Deadwood, S. D., July 6th. The clinical cases presented were "Tendoplasty for Both Tendo Achilles Severed by a Mowing-machine, with Perfect Function Two Years After"; "Jabez Jackson's Amputation of the Breast"; "Prostatectomy"; and a very complete report of "Intestinal Obstruction Caused by Fibrous Adhesion Due to Typhoid Ulceration or Trauma to the Bowel." All were followed by a very full discussion.

Delegate Smith reported that the State Association has contracted with THE JOURNAL-LANCET to publish its transactions and the papers read at its meeting, and that the paper is to be sent to every member of the Association.

The next meeting will be held at Hot Springs, the date and program to be arranged by the secretary.

F. E. ASHCROFT, M. D., Secretary.

NEWS ITEMS

Dr. Jacob Kussart has moved from Park Rapids to Wadena.

Dr. C. W. Bray, of Biwabik, is doing post-graduate work in the East.

Dr. H. H. Witherstine has moved from Rochester to Grand Forks, N. D.

Dr. W. G. Titus, of Mora, has been doing post-graduate work in the East.

Drs. M. J. and R. C. Farrish, of Sherburn, have opened a hospital at that place.

Dr. Carl Scherer, a recent graduate of Michigan University, has located at New Ulm.

Dr. L. B. Dochterman, of Williston, N. D., is in the East doing post-graduate work.

Dr. P. E. James, of Hutchinson, is doing post-graduate work in the Chicago Policlinic.

Dr. Paul B. Blair, of Winona, has moved to St. Paul, with offices at 562 Lincoln avenue.

Dr. C. E. Gates, of Goodhue, was married last month to Miss Inez A. Harvey, of Rochester.

Dr. Ludwig Sogge, of Windom, and Miss Anna Fricke, of Jackson, were married on June 25th.

Dr. E. H. Bohland, of Hanover, has moved to St. Paul, after practicing four years in Hanover.

Dr. A. S. Rider, of Flandreau, S. D., is doing post-graduate work in medicine and surgery in Chicago.

The Cavalier (N. D.) Hospital, recently established by Dr. J. J. Walker, is open to all physicians.

Dr. H. H. Miller, of Britton, S. D., has moved to Minneapolis, and has his office at 2447 Bryant avenue south.

Dr. William Greaves, of Northfield, died last month at the age of 65. He had lived in Northfield thirty years.

Dr. O. T. Peterson, of Northwood, N. D., and Miss Odiana Haraldson, of the same place, were married last month.

Dr. W. E. Robinson, of Spearfish, S. D., has given up the practice of medicine and gone into business in Indiana.

Dr. A. L. Kuskke, a recent graduate of the College of Physicians and Surgeons, Chicago, has located at Clements.

Dr. Robert O. Craig, of Janesville, died last month at the age of 74. Dr. Craig had lived in Janesville nearly forty years.

Dr. H. D. Newkirk, who recently moved from Wolverton to Litchfield, has returned to Wolverton to resume practice there.

Dr. W. T. Duncan, of Fergus Falls, who suffered from an apoplectic stroke last month, is reported to be much improved.

The large addition (30x50 and four stories high) to the Brown County Hospital at Aberdeen, S. D., has been completed.

Dr. E. W. Benham, of Amboy, has returned from New York city, where he has been several months doing post-graduate work.

Drs. D. J. Aspelund, Henry Goehrs, and E. C. Robitshek have been appointed assistant physicians in the Minneapolis City Hospital.

Dr. G. G. Brigham, of St. Cloud, is rapidly improving from the effects of the blood-poisoning which threatened his life last month.

Dr. Wm. Hotchkiss, who has worked two years in the Detroit, Mich., hospitals since graduation, has settled at New Rockford, N. D.

Dr. Charles E. Reeves, of Clarissa, has purchased the hospital at Kelliher, and will conduct the same, moving to Kelliher for that purpose.

A number of physicians, aided by public-spirited citizens of Duluth, are trying to establish a hospital in Duluth for contagious and emergency cases.

Dr. Herman Linde, of Cyrus, has sold his practice to Dr. Harry R. Baker, a recent Hamline graduate. Dr. Linde has gone to Europe for an extended trip.

Dr. W. A. Jones, editor of THE JOURNAL-LANCET, has been traveling in Europe for the past six weeks to get a long-needed rest. He will return next week.

Dr. D. M. Strang, who has been an interne during the past year at the Swedish Hospital of Minneapolis, has become associated with Dr. W. A. Hunt, of Northfield.

Aberdeen, S. D., proposes to build a detention hospital, and set a good example to many larger cities in the West. It will not be very large, but it will be very useful.

Dr. E. L. Meyer, of Walnut Grove, has moved to Minneapolis. Dr. Meyer is a 1905 State University graduate, and has practiced in Walnut Grove since his graduation.

Dr. Paul B. Reko, University of Vienna, 1901, of Galena, S. D., left for St. Louis, Mo., to be married to a lady of wealth, and thence to South America to practise medicine.

Dr. W. C. Wilson, of East Grand Forks, and Miss McMurchie, of Harwood, N. D., were married last month. Dr. Wilson is a 1907 graduate of Northwestern University.

The Aitkin Hospital Association has been incorporated, and a large residence has been rented for hospital purposes. Drs. A. G. Belsheim and J. W. George are on the board of directors.

Dr. S. J. Froshaug, of Hills, has sold his practice to Dr. B. O. Mort, a recent graduate of Hamline. Dr. Froshaug will take a post-graduate course at Rush, and will not return to Hills.

The Children's Home Society of North Dakota has established a hospital at Fargo, N. D., for the care of the homeless sick and deformed who are deprived of the hope of being adopted.

Dr. Arthur Hitchens, director of the antitoxin and vaccine laboratories of the H. K. Mulford Company, is in London engaged with Prof. E. A. Wright in the study of opsonins and vaccine therapy.

Dr. O. A. Olson, a recent graduate of the College of Physicians and Surgeons, Chicago, was married last week to Miss Helen H. Swanson, of Fergus Falls, and has begun the practice of medicine at Kennedy.

The quarterly clinics given at the St. Peter State Hospital are attracting much attention. Last month the clinic was on tuberculosis, and was largely attended. Dr. Tomlinson lectured on the lungs, and presented cases of much interest to the attending physicians.

The Surgeons' Club of Rochester elected the following board of trustees at its last meeting: Drs. Graham and Wilson of Rochester, Dr. Westbrook of Minneapolis, and Baron Takaki of Tokio, Japan. Dr. Crewe was continued as secretary-treasurer. A president is elected every Monday, and holds office for a week.

Dr. Herman S. Judd, Rush, 1905, of Lead, S. D., who has removed to Topeka, Kansas, was given a farewell supper at the Franklin hotel by his Deadwood confreres, as a token of their kindly feelings toward him, and their admiration for a man who practised medicine successfully, fairly, and honorably.

Drs. Jennings C. Litzenberg and Solon Marx White, of Minneapolis, were members of a large house-party of Minneapolis people at Litchfield over the Fourth. Dr. Litzenberg acted as "fire chief" in letting off a large bunch of fireworks for the amusement of the crowd. While acting in this capacity the doctor tried to induce a mammoth sky-rocket to ascend. It refused to mount the sky, but exploded, burning the doctor's arm somewhat. Just before leaving for Litchfield Dr. Litzenberg was one of a committee that waited on Mayor Haynes, and it is said that, with tears in his eyes, he pleaded for a "safe and sane Fourth" for Minneapolis. "How have the mighty fallen!" Dr. White is said to have paraded the streets of the quiet and dignified hamlet, garbed not in professional robes, and, in numerous other ways, added little to the dignity of the profession. We understand the people of our town are considering giving the doctors an invitation to play a return engagement at their street fair this fall.

FOR SALE OR TRADE

A good practice in Southern Minnesota, in a village of 900 population. Good farming community. Address N., care of this office.

INTERNE WANTED

An interne is wanted at the Minnesota Soldiers' Home. Salary, \$25.00 a month, with room, board, and laundry. Address, Dr. E. J. Davis, surgeon, Soldiers' Home, Minnehaha.

ASSISTANT WANTED

Dr. K. Gryttenholm, of Zumbrota, wants a recent graduate as an assistant; one who speaks German or Norwegian is preferred. Apply direct to Dr. Gryttenholm.

TO THE PROFESSION—X-RAY LABORATORY

I have a well equipped x-ray laboratory, rooms 214-218 American National Bank Building, corner Fifth and Cedar streets, and am prepared to do your radiographic work.—W. S. FULLERTON, M. D., St. Paul, Minn.

FOR SALE

In the central part of Minnesota, an unopposed good practice with a paying drug-store in connection. Large territory; population mixed; books will bear inspection. I desire to retire. Address N. M., care of this office.

FOR SALE

A practice of \$4,000 in a town of 1,600 inhabitants, mostly Scandinavians and Germans. A good farming country. A saw-mill gives employment to 150 men. Office furniture, instruments, and appliances, valued at \$1,200. Will be sold for \$700, including practice. Address A. N., care of this office.

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THE IMPORTANCE OF THE EARLY RECOGNITION AND TREATMENT OF CONVERGENT STRABISMUS IN YOUNG CHILDREN*

BY WILLIAM R. MURRAY, M. D.

MINNEAPOLIS, MINN.

I have confined my remarks, in the following paper, to the convergent form of strabismus, both for the purpose of brevity and because this form of squint is so commonly present; but whatever I have to say in regard to the importance of beginning treatment at the earliest possible moment in convergent strabismus, will apply with equal force to all varieties of squint, and I have presented this subject on account of the neglect of parents and many of the profession, to realize the necessity of beginning treatment early, at the onset of the strabismus, and their failure to realize the unfortunate result that is sure to follow a neglected case of strabismus in young children.

The popular belief in regard to a child's "outgrowing squint," or that nothing is to be done until the child is five or six years old, or that the treatment for squint is entirely surgical, is still far too prevalent among the laity, and the result, in a case of constant unilateral squint, is usually loss of sight, for any practical purpose, in the squinting eye.

There are two essential conditions present in every case of concomitant convergent strabismus: (1) "an abnormal convergence of the visual axis"; (2) "a defect of the fusion faculty." (Worth's "Squint.") These two conditions are always present, and the defect of the fusion faculty is the underlying cause of the deviation.

Under normal conditions both eyes take part in the act of vision, and are so adjusted and regulated that when an object is looked at an image of it is focused upon corresponding parts of the retina, namely, the maculae, and the two images are fused into one mental perception.

This ability to fuse the two images so that one mental perception of the object is present, constitutes single binocular vision. This faculty originates in, and is controlled by, the fusion center in the brain and, when the fusion faculty has become developed, the desire for binocular vision causes both eyes to be directed to the object fixed. The fusion faculty is not present at birth, but begins to develop about the sixth month and reaches its full development about the sixth year. It is during this period of a child's life, when the fusion faculty is not present or is but imperfectly developed, that a deviation of the eye is likely to occur in the presence of some exciting cause.

Other conditions that may be present, in addition to the essential ones mentioned above, are—

1. Suppression of vision in the deviating eye. In a case of squint the visual axes not being directed to the same object, the vision in the deviating eye is suppressed or ignored. This is invariably the case, even when the vi-

*Read before the South Dakota State Medical Association, May 29 and 30, 1907.

sion in each eye separately is normal. These cases do not complain of diplopia. They have not the faculty of fusing the two separate images into one mental impression; hence the image is suppressed in one eye, the eye turns in, and the patient uses the opposite eye for fixing the object.

2. Acquired amblyopia. At the onset of a case of unilateral squint the sight of the deviating eye is good, in the great majority of cases; the squinting eye has the power of central fixation; and, if the opposite or fixing eye be covered, the previously deviating eye will fix the object. In a case of neglected squint, the vision of the deviating eye being suppressed, the power of fixation and central vision rapidly diminish, and amblyopia of the deviating eye results from non-use. The age of the child is an important factor in the rapidity with which the sight deteriorates; the younger the child, at the onset of the deviation, the more rapidly does the acquired amblyopia progress.

3. A refractive error is usually present, and in convergent unilateral strabismus, it is usually hyperopia or hyperopic astigmatism, or both combined. This error of refraction is usually the exciting cause that determines the deviation, and is due to the intimate relationship that exists between accommodation and convergence. When a person with normal eyes, gazes at a distant object, the image of that object is focused upon the retina without effort of accommodation, and the visual axes are parallel. When he looks at a near object the eyes must accommodate in order to see the object clearly, and at the same time the two eyes must turn slightly inwards, or converge, in order that the visual axes may be directed to the near object. If the eyes are hyperopic they must accommodate for distance to a degree corresponding to the amount of hyperopia, and with this accommodative effort there is an associated stimulus to converge. When looking at a near object the hyperope must add to the normal amount of accommodative effort required to focus upon the retina the image of the object looked at, an amount of accommodation equal to his hyperopia, and this excessive accommodative effort, being accompanied by an excessive stimulus to converge and occurring in a young child, whose fusion faculty in the brain is not developed, and in whom there is not a well-established desire for binocular vision, may be, and often is, the exciting cause of the eye's deviating inwards, and the image in that eye being suppressed.

4. There is present, sometimes, though rarely, a congenital amblyopia. Congenital amblyopia may be present in the squinting

eye, but investigations have shown that, while the vision in the deviating eye is often defective, and rapidly becomes so through neglect, it is, in a great majority of cases, an acquired and not a congenital defect.

The treatment of strabismus may be classified as non-operative and operative. It is to the non-operative treatment that I wish, particularly, to call to your attention, as it is a somewhat popular belief that all cases of squint must be operated upon. This is an erroneous idea, and is responsible, largely, for the neglect of these cases during that period of existence of the squint when the non-operative treatment would be effective. A very large proportion of cases can be cured by non-operative treatment if the treatment is begun early in the course of the deviation, before there is marked deterioration of vision in the squinting eye, and while it is still possible to establish the fusion faculty. The aim of this treatment is the establishment of binocular vision, through the training of the fusion faculty, and by the removal of such exciting causes as may interfere with the development of that faculty. This can be done only during the early years of childhood, and before the deviating eye has become amblyopic from non-use.

The therapeutic measures to be employed in the treatment of squint are as follows:

1. *The Occlusion Pad.*—The object of the occlusion bandage is to cover the straight, or fixing, eye, and compel the patient to use the deviating eye. By this means the acquired amblyopia, which invariably follows a neglected case of unilateral squint, is prevented.

The fixing eye should be covered as soon as possible after the onset of the deviation, and the child be compelled to use the previously deviating eye for periods of three or four weeks at a time, with an interval of a week, in which the patient is allowed to use the previously fixing eye, in order that there may be no deterioration of vision in that eye. This is a precaution that it is wise to take, as deterioration in vision occurs quickly in a very young child. It may be necessary to continue the use of the pad for months, until a previously unilateral squint is converted into an alternating one.

In cases of young infants the occlusion pad may be the first therapeutic measure resorted to, and must be carefully applied, in order to be effective, and its use rigorously insisted upon; the object of the occlusion of the good eye being to prevent deterioration of vision in the squinting eye, or, if vision is already impaired, to stimulate and improve the vision in that eye.

2. *Cycloplegic.*—Atropine may be used in the straight, or fixing, eye, for the same pur-

pose as the occlusion bandage, to so blur the sight in that eye that the child will use the previously deviating eye. It should be used only in the fixing eye, and will take the place of the pad only if it is successful in changing the deviation to the atropised eye. This is not likely to occur if the vision in the squinting eye is very much reduced. However, in those cases where the vision in the squinting eye is good, and the use of atropine at once causes a transference of the squint, the cycloplegic is much more conveniently used than the occlusion pad, and answers the same purpose. It may be necessary to continue the use of the atropine, in one eye only, for a long period of time, and it will be used in conjunction with other therapeutic remedies, such as the wearing of correcting lenses.

3. *Lenses*.—As hyperopia or hyperopic astigmatism is almost always present in a case of unilateral convergent strabismus, and as it is this error of refraction that is usually the exciting cause in unbalancing the equilibrium of the eyes, it becomes of the utmost importance that appropriate lenses be prescribed for constant wear at the onset of the squint, or at the earliest age that it is possible to keep the glasses on a child, which can usually be accomplished at one year of age.

The use of glasses in convergent strabismus increases the visual acuity by correcting the refractive error, and, on account of the intimate association of accommodation and convergence, lessens the stimulus to convergence by removing the excessive accommodative effort. The refractive error should be determined under complete atropine mydriasis, and the full correction be prescribed for constant use. It is of the utmost importance that this work should be done carefully, thoroughly, and accurately, and as these patients are usually of such an age that they can offer no assistance in the subjective measurement of their ametropia, it becomes necessary to rely entirely upon objective methods, and our main reliance will be upon the use of the retinoscope; hence the oculist must be skilled in the use of this method of determining refractive errors. This is an important point, as it often happens that failure to secure good and permanent results will depend upon the improper prescribing of lenses.

4. *Development of the Fusion Faculty*.—The highest and ultimate aim in the treatment of strabismus is the establishment of binocular single vision, and in order to accomplish this the fusion faculty must be trained at an early age, that is, before the age of six years, when the fusion faculty normally reaches its full development.

During the continuation of a squint, vision

may be produced in the deviating eye, and binocular single vision induced by means of the amblyoscope. If the vision in the deviating eye has not deteriorated to too great an extent, and if proper treatment is begun in these cases at a sufficiently early age, the fusion faculty may be so established and developed that the constant desire for single binocular vision will produce parallelism of the visual axes in a large proportion of these cases.

The instrument best adapted to this purpose is the Worth-Black amblyoscope, the object of which is to stimulate and develop the fusion faculty during the continuation of the squint. The instrument may be so adjusted that binocular vision may be obtained in a squint of 45° . The training of the fusion faculty with the amblyoscope should begin at the earliest age at which the child can be intelligently interested in the use of the instrument, and this can usually be done at the age of three years.

5. *Operation*.—The proportion of cases of strabismus, in young children, that require operation, is decreasing, and will continue to decrease as the profession and laity appreciate more the necessity of having these cases properly treated in the early course of the squint.

Operation, to establish parallelism of the visual axes, should be a measure of last resort, and should be undertaken only when non-operative treatment has failed to effect a cure, or if such pathological lesions exist as will make it impossible to obtain any improvement by non-operative treatment.

Lack of time prevents me from detailing the various operative measures that may be resorted to for the correction of squint, but I would add that, as a general rule, advancement is preferable to tenotomy, in that it is a far more exact operation and is not liable to be followed by the bad after-effects that sometimes follow a tenotomy. In those cases of high degree of squint, in which it is not advisable to correct the full amount by an advancement alone, a tenotomy may be combined with an advancement.

DISCUSSION

DR. R. D. ALWAY, Aberdeen.—I wish to commend the doctor for the thoroughness of his paper.

Convergent squint is an important and difficult branch of ophthalmology, the treatment of which requires patience and perseverance on the part of both the oculist and patient. Good results can be brought about by the methods the doctor recommends. Personally, I have not had good success with the blinder; I have never been able to get the patient to wear it constantly enough. I have had considerable success in the use of atropine in the fixing eye. This treatment should be used for months as long as there is any improvement.

In regard to operation: the benefit outside of the cosmetic is very little.

These children are too young to practise exercises for training the fusion sense.

DR. J. G. PARSONS, Brookings.—I have been greatly interested in this paper. There is great difficulty, as Dr. Alway suggested, in getting parents' permission to give the child's eye a fair show. There is too much of the popular belief that children will outgrow the trouble in time without assistance. They seem to think it a terrible thing for a little child to wear glasses constantly, and are encouraged in this by the optical quack, who assures them that he can sell the glasses that can be worn once in a while, and that he can completely correct the trouble "without the use of the knife."

I believe the most important thing for us to do with this class of cases is to hammer away at the parents on the value of an eye. I try to impress upon them that the time put in in taking care of an eye is time well invested, arguing that this eye should receive just as careful attention as if it were the only eye the patient had. If we can attack the parents along this line and get them interested in the value of an eye, we shall have better cooperation.

DR. E. F. REAMER, Mitchell.—The great importance is to get the proper correction, the correct glasses, and then getting them on early, before the squint becomes permanent. There are things in the way to overcome. Prejudice in the use of "drops", prejudice against glasses, etc. I am not in favor of much operating. I have had very good success with my cases with the proper fitting of glasses, following them up until I got the full correction. Where children wear the glasses they will have straight eyes. Of course where the eye has gone practically blind, glasses cannot bring it around.

Physicians in general practice should recognize

the importance of an early correction of the refraction. Too many physicians allow these children to go with hypermetropia uncorrected, telling the parent that they will outgrow it or they send them to an optician who prescribes without using a mydriatic, which does not correct enough of their difficulty to really do any good.

DR. MURRAY (Essayist).—As stated in my paper, my object in presenting the subject of the non-operative treatment of strabismus was to impress upon the profession the great importance of beginning treatment early in the course of the deviation. If a case of unilateral strabismus is neglected until the deviating eye becomes amblyopic, or until the child reaches the age when the fusion faculty cannot be developed, the only remedy is operation, and in the case of an amblyopic eye that has been straightened by operation there is no desire on the part of the patient to keep the eye straight, the patient has not binocular vision, and it is always a question how long the eyes will remain parallel.

The objection to the use of the occlusion bandage is that it is hard to keep it on a young child; and it is sometimes hard to convince the parents of the necessity for its continued use. In those cases where the use of atropine, in the fixing eye, causes a transference of the squint, it is much more conveniently used than the bandage, and it is effective. It is necessary for the child to wear correcting lenses. The parents sometimes object to it, but it is not hard to keep the glasses on a young child, because they afford so much relief. The frames must be fitted carefully so they will not be uncomfortable. I believe the full correction should be given.

A NEW THEORY OF THE CAUSATION OF ECLAMPSIA*

BY WILLIAM REID, M. D.

DEER WOOD, MINN.

I shall not attempt to discuss all the various theories advanced, for they can be read in any good text-book, but it is my object here to put before you a new theory, or, rather, a new idea as to certain physiological or pathophysiological conditions in their relation to the clinical manifestations and post-mortem evidences of this disease.

This theory has not yet been advanced so far as to find its way into any text-book, but investigators are taking it up, and recent literature points to researches along the line of thought indicated in this paper. I shall not be so bold as to say that it is entirely original, but when I first began to formulate my ideas for this discussion it was entirely original as far as I myself was concerned, not knowing the recent thought of students of this disease. There are, however, some entirely original ideas for which I must apologize, knowing that they are crude and deduced from scanty and insufficient data. Yet

they may amuse you, if they do not instruct, but I believe this paper embodies the trend of recent thought regarding the ultimate cause of eclampsia.

Eclampsia Puerperalis.—This disease occurs generally in the beginning of labor during the period of dilatation, sometimes immediately or some hours after labor, and again not for some days after, one to twenty days. Again it may come on previous to labor-time, varying from a few hours to three months. It has also been noted as early as the third month of pregnancy, but seldom from the third to the seventh or eighth month.

It occurs chiefly among primiparæ, as often as four to one and one in two hundred and fifty cases of labor. It may be accompanied by several paroxysms, twenty or more, followed by ultimate recovery, and death may suddenly follow a single paroxysm.

It may occur in the first labor only. And it may occur in the first and some subsequent labor,

*Read before the Upper Mississippi Medical Society, April 8, 1907.

or more rarely it occurs in a later pregnancy only.

It is generally preceded by headache and pain at the pit of the stomach, but at times these prodromes are entirely absent.

Its existence is made known by tonic and clonic spasms of the voluntary muscles, beginning with those of the face and extending downwards to the muscles of the lower extremities and subsequently to the entire muscles of the body.

The patient generally becomes unconscious during the paroxysms, and returns to consciousness after the attack has passed, but many cases go into an unconscious condition and remain so till death or a slow recovery takes place.

Albumin is found in a large majority of cases in the urine of eclamptics, and during the period of eclampsia almost total suppression of urine takes place.

The temperature of the body is raised, generally to 102 or 104 degrees.

The pulse is quickened, and a high blood-pressure is maintained.

Pathology.—The most constant pathological finding is that of albuminuria at time of the attack and suppression of urine. This albuminuria in a large majority of cases precedes the actual paroxysm by days, weeks, or months.

The liver shows evidence of parenchymatous degeneration, and numerous thrombi give rise to infarcts and acute fatty degeneration.

The brain shows evidence of numerous thrombi and infarction, which is the characteristic post-mortem lesion.—*Harbitz*.

The kidneys, post-mortem, show in all cases parenchymatous degeneration with swelling of the epithelium, but no interstitial change, except in those cases where chronic lesions of these organs have existed independent of pregnancy.

No bacteria have been demonstrated in the blood or urine capable of producing the disturbance. The urine has not been shown to contain toxic bodies.

The blood of eclamptics is highly toxic and produces convulsions in animals when injected into their veins.

The placenta of eclamptics, as shown by Schmorl, is also toxic and an emulsion made from a specimen of a dried placenta caused convulsions and death in animals into which it had been injected.

The children very frequently are born in spasms and die a short time after birth. Nearly fifty per cent die thus.

If the attack comes on during pregnancy the result is generally favorable following the death of the fetus; at least this is claimed by some.

These, then, are the more important phenomena in connection with this mysterious disease,

and to form a workable theory from all these perplexing and baffling phenomena is indeed a difficult task; in fact, I should never have begun the writing of such a paper for the Society had it not been that from the occurrence of a few striking cases in my practice I was led to think a great deal upon the theories and causation of the disease, and the theory and causation of the disease, which I shall place before you this evening, were very strongly suggested by one of these cases.

In my obstetric experience nothing has impressed me more than the sudden contortions and weird appearance into which the human face and form can be thrown by these attacks, and to witness the terror and dismay which they scatter among the relatives and friends of the sick one, is distressing.

Up to September, 1905, I had not given this disease much serious consideration. I had not had a case in my practice for several years and only one previous to that time. I had read all I could find on the subject and rested content that a woman dying of eclampsia simply died of acute Bright's disease, and that there was no help for her at best outside of purgation and veratrum viride. However, in the early days of September, 1905, I was called several miles to the bedside of a primipara who had been delivered of a living and healthy child about twelve hours previously, without any difficulty, and without accident, the placenta having come away promptly.

The patient had rested well for eight or ten hours after labor, when she began to have severe headache, and pain in the stomach, and about two hours later went into a convulsion. She had had four or five of these convulsions before I arrived, at intervals of probably an hour.

My treatment was calomel and elaterium in frequent and divided doses, administering morphia hypodermatically with chloroform inhalations. This was continued for over twelve hours, during which time the bowels moved very freely. The urine was entirely suppressed, and a small amount being drawn showed it to be highly albuminous. There was a slight rise of temperature, but there was not a markedly high blood-pressure, yet the pulse was of increased volume although easily compressible.

The patient was entirely unconscious, although responding to tactile suggestions, as she would swallow when water or medicine was placed to her lips.

The spasms became more frequent until her condition was one of almost continuous rigidity, giving her but little relaxation. Her respiration became so shallow that we repeatedly performed artificial respiration in the ordinary manner. I had no hopes of her recovery, and not knowing

what else to do and having neither veratrum nor chloral with me I drew from twenty to twenty-four ounces of blood from the arm. This, to my surprise and delight, seemed to have an immediate effect. The patient became quiet and slept apparently well for three hours, when she awoke and went into another spasm, which lasted only a short time. In half an hour she had another convulsion, and a third an hour later which ended the attacks. She did not, however, regain consciousness for four or five days, lying in a semicomatose condition. She continued very weak and exhausted and had copious sweatings. The urine, however, became free.

Chills then occurred and fever developed, and her temperature rose to 102 and 103 degrees, followed rapidly by pain in the left lumbar and iliac regions extending down the left groin and thigh with tenderness along the femoral vein throughout its whole length. This complication, which was easily recognized as thrombophlebitis, ran the usual course, with recovery in about nine weeks.

This patient stated that all through her pregnancy she could trace the beginning and duration of each menstrual epoch by the onset periodically of pelvic and abdominal fullness and congestion similar to that which she had always experienced, before her pregnancy, at her menstrual periods. These pains or feelings of fullness about the loins and abdomen were exactly similar, according to her statement, to those which she had experienced previous to the swelling of the left leg following parturition, and described above.

I concluded from this circumstance and the clinical manifestations that thrombosis probably existed high into the pelvic and abdominal veins, including, of course, the renal and uterine veins. I believe also that a tendency toward this very condition existed all through her pregnancy; that is, an undue determination of blood in the uterine and neighboring veins. In other words, an undue accumulation of venous blood, or, more plainly, more blood collected in those vessels than the return circulation and right side of the heart was enabled to relieve; hence, a condition developed favorable to thrombosis; that is to say, the blood-current was slowed down and time given for physical and possibly chemical changes to take place favorable to separation of *fibrin*, which constitutes the chief element in the intravascular clotting of blood. The blood, then, in such a case, would be in a condition favorable to coagulation. This I believe to be the chief element in the causation of eclampsia. And I believe more phenomena of the disease can be explained by this than by any other theory.

I will call attention again to the fact that the chief post-mortem evidence of eclampsia, ac-

cording to investigators Harbitz, Schmorl, and others, is the presence in all the organs of the body, particularly the brain and kidneys, of numerous minute coagulæ producing infarction and acute fatty degeneration.

By venous stagnation in the abdominal and more especially the uterine veins coagulation of blood takes place (by uterine veins we mean the uterine sinuses of pregnancy). These vessels furnish a constant supply into the circulation of more or less altered blood, altered in physical properties. This altered blood, scattered to all parts of the body, determines the changes found in them. The finer the parenchymatous structure of the organ, the more pronounced will be the effect, and it is from interference with the functions of the brain and kidneys, the most highly complicated organs, that the greatest dangers arise.

This theory attributes, therefore, the various phenomena of the disease to one common cause, namely, the altered condition of the blood. This coagulable blood explains the high tension. This tension being caused directly by the irritating action of the former upon the cerebral centers or by inhibition of the higher centers, the lower centers are allowed full sway, notably the vasomotor. By stimulation of the vasomotor centers the renal vessels are closed, so that high pressure exists there as elsewhere, and the glomeruli are blocked, leading to suppression and albumin in the urine. It is this high tension, however, which is only in itself a result, that works the greatest damage in this disease. The same condition of clotting exists in the hepatic vessels, giving rise to infarction and fatty degeneration of the liver, and explains the occurrence in susceptible subjects of acute yellow atrophy, which has been noted in some cases as a concomitant, but this, I believe, is a rare complication.

Our theory, then, is the blood theory, the altered condition of which leads to high tension in the vessels with its results, viz., albuminuria, suppression of urine, and convulsions.

I believe that not all cases show an increased tension in the pulse taken at the wrist; but it may be in the brain, in the cerebral vessels only, or it may be in the renal vessels only; in which case albumin is thrown down in large quantities with or without the occurrence of convulsions. A neighboring physician recently told me of a case, occurring in his practice, of albuminuria in a pregnant woman whom he treated several weeks previous to labor. Convulsions did not occur, but the urine was loaded with albumin, and the patient complained of intense headache after labor. A hypodermatic injection of morphine was given, and the woman went to sleep, awoke relieved, and made a good recovery. This was evidently a case of eclampsia without convulsions,

the irritant elements involving principally the renal vessels, but to a lesser extent the cerebral.

This uterine blood theory is really a modification of an old theory, the theory of Bouchard. He held that menstrual blood is toxic when retained in the system, and capable of giving rise to various phenomena, the principal of which are headache, vomiting, pain, convulsions, anemia, etc.

Now, when a woman becomes pregnant, this blood, which comes to the uterine walls in periodic waves, serves to nourish a new being. In nearly all cases nature provides just the required amount according to the degree of development of the fetus and capacity of the vessels; or, in other words, there is a perfect adjustment between supply and demand. The circulation between the maternal and fetal tissues is maintained at a proper balance, and all the blood brought to the sinuses is used to nourish the fetus and is kept, so to speak, in a state of motion so that no time is given for cytolysis or hemolysis to take place.

My attention was especially called to this toxicity of retained uterine blood by observing a patient who exhibited symptoms of eclampsia every month at or just after the periods. If the flow did not start promptly she would become unconscious, go into a condition of tonic spasm, clench the thumb across the palms, the eyeballs would roll upwards, and the facial muscles would become distorted. These were also associated with violent headaches, and pain in the stomach.

By the administration of morphine or antispasmodics she would be relieved, and the flow established. At other times these phenomena would be seen just after a period. She never had any such symptoms nor any symptoms of eclampsia during pregnancy or labor, although the mother of five children. No albumin was found in her urine, so far as I had the opportunity to examine.

In further support of the toxic properties of retained or re-absorbed menstrual blood I call your attention to the fact that if during a menstrual period ergot is administered very often headache comes on and a general ill-feeling, and sometimes sickness of the stomach is induced. It is also a matter of common observation that young girls at puberty develop anemia and chlorosis, and some have even convulsions when the flow is retarded for any reason. So, too, at the menopause similar conditions are common, viz., fainting, headache, flashes of heat, and palpitation, and even convulsions occur, due to re-absorption of blood altered in character by retardation in the uterine sinuses.

During pregnancy retardation is brought about, first, by a predisposition to enlarged sinuses; secondly, probably by a lack in the blood of the elements which inhibit coagulative changes; and,

thirdly, it is favored physiologically by changes in the placentomaternal circulation.

This brings in a long chapter in embryology, and I have not time in this paper to discuss it fully, but I shall briefly refer to the fact that there are two periods in uterogestation in which this circulation is disturbed, viz., at the beginning and at the end of pregnancy. In these periods we find nearly all cases of eclampsia occurring; in the former (up to the end of the third month) the decidua has not come into intimate relation with the uterine mucosa and the placenta is in the formative stage. The balance between blood-supply and demand is not yet adjusted, and there is an excess of blood in the uterine walls, which cannot be used.

In the latter period of pregnancy the decidua begins to separate, according to authorities, about the seventh month, and the placental circulation begins to slow down, which again leads to a condition of improper adjustment of supply and demand.

At full term, or when labor begins, the contractions incident thereto bring about a rapid damming up of blood in the uterine vessels and those of the abdomen, leading to stasis, coagulation, high tension, and eclampsia.

In the middle months of pregnancy we find few cases of eclampsia, because the circulation between maternal and placental tissues is perfect and a perfect balance exists between blood-supply and demand.

Garrigues says: "From the third month giant cells appear among the decidua cells and become more numerous as pregnancy progresses. They wander into the intervillous spaces and gradually fill them so as to limit the blood-supply more and more, the thrombosis of the sinuses, thus preparing for the time when connection between mother and child shall cease."

Thus it seems that thrombosis is an essential element in the normal separation process between maternal and fetal circulation, and it is not surprising that under favorable conditions it should assume pathological relations.

The most commonly accepted theory up to the present time, still held by many, is that of Braun, advanced about the middle of the last century and held ever since by medical men the world over. It is the theory of "acute parenchymatous nephritis." It makes the kidneys the starting point of disturbance—it is the theory of obstruction and of uremia.

In view of the light which modern investigation has thrown upon pathological anatomy, it is difficult to see how it can be longer held as a rational theory. It does not explain on the principle of uremia why some with badly damaged kidneys go through pregnancy and parturition without eclampsia. But I believe the

main objection to this theory is the fact that eclamptics recover from their renal symptoms, as a rule, promptly and completely; whereas, if these were due to organic changes in the parenchyma of these organs, it would be inconsistent to suppose that these changes should disappear so suddenly with normal restoration of function in a few days.

The most recent literature of this subject shows investigators looking for a special toxin or ferment which precipitates fibrin from the blood and leads to coagulation.

Ascoli believes in "deportation of placental cells," and Weichert believes he has isolated a toxin from the placenta of eclamptics which causes coagulation of blood. He calls it *syncytotoxin*, probably from the syncytium or outer layer of cells lining the villi of the chorion.

Zweifel still maintains the lactic-acid theory.

SUMMARY

1. The immediate cause of eclampsia is high tension in the vessels.
2. The cause of high tension is coagula in the blood.
3. The remote cause is retardation or stagnation of the blood in the uterine and the neighboring veins, favored by predisposition of the anatomy as large sinuses and irregular adjustment between maternal and placental circulation.
4. There exists a special ferment or toxin which, with the preceding causes, determines the coagulability of the blood. This toxin has not been traced to its origin, but is shown to exist in the placenta.

METASTATIC ABSCESS OF THE LIVER: REPORT OF CASE*

BY DR. W. T. ADAMS

ELGIN, MINN.

Referring to the literature of abscesses of the liver, one is impressed with the fact that a very large percentage of hepatic infections are metastatic in character. Osler, after mentioning the fact that embolic or pyemic abscesses are most numerous, states that the infection may reach the liver through the hepatic artery when the focus of infection is in the vicinity of the systemic circulation, or, more rarely, it may be taken from the circulation through the inferior vena cava or hepatic veins, causing, generally, multiple abscesses. He further says that infection through the portal vein is much more common, and "results from dysentery and other ulcerative affections of the bowels, appendicitis, occasionally after typhoid fever, in rectal affections, and in abscesses in the pelvis," causing multiple abscesses, as a rule, within the branches of the portal vein.

In speaking of the morbid anatomy, Osler says that the large or solitary abscesses are most frequently of "tropical" origin, but may be the result of injury, and that septic or pyemic abscesses are always multiple.

It is not the intent of this paper to enter into a discussion of the subject as a whole, but to report a single case, which to the writer is one of intense interest, and, on account of the extreme rarity of this affection in this latitude, cannot fail to interest other members of the profession. Hence, after the above brief reference to the etiology of this disease, which lays

the foundation for the opinions which will be expressed, I shall briefly sketch the history of the case.

Mrs. W., married, is about twenty-three years of age. General health good, except for two or three attacks of appendicitis, which at the time were not diagnosed. I was called to the case May 4, 1906, and diagnosed appendicitis. The patient had already been three days sick, and apparently in fair condition, with evidence of an abscess formation, so I decided to wait for a late operation.

While there was every reason to believe that pus was accumulating in considerable quantity, at no time was there evidence of a mass that could be outlined, and there was marked bowel resonance over the entire region. On May 10th I decided that an operation should be made, and, in deference to the wishes of the family, Dr. W. J. Mayo was called. Dr. Mayo was inclined to doubt the existence of an important abscess, but thought that there was sufficient evidence to warrant drainage, and he proceeded to operate. As soon as the peritoneum was incised, to our mutual surprise there gushed forth a most profuse discharge of the characteristic pus of an appendiceal abscess. I mention this on account of the unusual condition, there being so much pus and so little tension that it was impossible to outline the abscess, which, without doubt, extended across the pelvis. For the next two days the patient's condition was fair, but on the 12th she was seized with a most exhaustive septic

*Read before the Wabasha County Medical Society July 12, 1907.

diarrhea, attended with frequent vomiting, equal to that of a typhoid. This condition lasted nearly two weeks in spite of our best efforts, and gave the greatest cause for anxiety. The abscess drained profusely, and, although somewhat protracted, the patient made a good recovery. The diarrhea once controlled, convalescence was uninterrupted and complete. During the period of exhaustion attendant upon the diarrhea, there appeared large patches of purpura hemorrhagica around the waistline and the nates, and upon the shoulders.

My patient returned to me in August, complaining of pain in the right side a little above the edge of the ribs in the inframammary region, and extending along the ribs to the axillary line. Percussion showed liver dullness considerably increased, but auscultation failed to reveal anything abnormal. She had appeared to be in excellent health up to this time, and the discomfort just mentioned soon passed away.

I heard nothing more of the case until January 27th, when I was again consulted. The history elicited at this time was that of difficult breathing, especially at night, profuse night-sweats, and severe pains, referred especially to the subscapular region of the right side. She was emaciated, had little appetite, was inclined to drowsiness, and had ill-defined chills at irregular intervals. These symptoms had persisted for nearly two months, but were gradually getting worse.

Observation developed the fact that there was a decided rise of temperature each evening, with a much lower morning temperature, sometimes a trifle subnormal, with marked exhaustion. Respirations were accelerated, ranging from twenty-five to thirty-five and sometimes forty to the minute. Inspection showed much loss of motion on the right side of the chest, while on the left side it was much exaggerated. No alteration in the size and shape of the chest was noticeable. Percussion revealed a very large increase of the area of liver dullness, measuring eight inches perpendicularly in the mammary line, and, posteriorly, reaching as high as the point of the scapula and to a corresponding height in the axillary line. There was no evidence of enlargement of the liver below the edge of the ribs.

The percussion resonance over the right lung was very high pitched, and in the infraclavicular region there was a marked degree of flatness. The percussion note over the left lung was hyperresonant, in keeping with the increased mobility of that side. The stethoscope revealed a very decided impairment of the vesicular murmur all over the right lung, with marked tubular breathing in the right subclavicular region. No râles or other abnor-

mal sound could ever be heard. The left lung, on the other hand, showed exaggerated, almost puerile, respiratory sounds. The impairment of the lung and accelerated respirations, and the character of the fever, the temperature sometimes reaching 105° between four o'clock p. m. and midnight, with a tendency to delirium, frequently followed by profuse night-sweats and great prostration, caused me to fear general tuberculosis, and to look for a sudden breakdown of the lung, and possibly the occurrence of tubercular meningitis. This thought was also entertained by Dr. A. W. Stinchfield, of Rochester, who saw the case, in consultation with me, about the middle of February.

While there seemed to be well-founded reason to fear the graver results as to the lung, I did not for a moment relinquish my observations of the liver, feeling, as I did, that the enlargement had not been accounted for. To me, this being my first and only experience with an abscess involving the substance of the liver, all symptoms were negative, except the enlargement. There was no icterus, and nothing in the urine or stools to indicate impaired hepatic function. From this time the patient lost ground very rapidly, and her mental condition and nervous irritability assumed a very grave aspect. Undoubtedly there had been an enlargement of the wall of the chest, caused by pressure from the liver-mass against the ribs in the subaxillary space, which was unnoticed for a time, when on February 20th she was seized with severe pain in that region, which persisted, and on the 22d a distinct edematous area presented, the center of which, by the 24th, showed considerable softening and redness. This phenomenon fixed the diagnosis of hepatic abscess, and demanded an immediate operation, which I made on the 26th, with the assistance of Dr. J. A. Slocumb, of Plainview, who administered the anesthetic.

The patient was drawn to the side of the bed, only a small amount of chloroform being required, and an incision was made in the center of the edematous area to the intercostal muscles in the ninth intercostal space on a line with the posterior axillary border. Not finding pus outside of the ribs as I had somewhat hoped to do, I used an exploring needle and verified the diagnosis. I then seized a large hemostatic forceps, and plunged the closed instrument boldly through the intercostal space, transfixing the reflected pleura, pleural cavity, and diaphragm, into the liver-mass, and, spreading the blades, withdrew it, and was rewarded by the immediate evacuation of an immense amount of pus, undoubtedly from an immense solitary abscess. Distention of the chest, together with the extension of the arm above the

patient's head, gave me abundance of room to introduce two quite large drainage-tubes and some strands of iodoform gauze, which I did, through the intercostal space, without resecting a rib. I removed the gauze the next day, and one of the tubes in about three days. I was somewhat appalled at the rapid discharge of the pus, as I had noted in some work on surgery that too rapid drainage may cause dyspnea, but my patient not only showed no unpleasant symptoms, but, as remarked by Dr. Slocumb, her respiration improved during every moment of the drainage. The drainage was very profuse for a number of days, but gradually lessened, and I finally removed the tube at about the end of the fifth week. From the manner of the drainage, and the direction of the tube as the abscess walls collapsed, I am satisfied that the abscess involved the center of the liver-mass toward the posterior portion of the right lobe.

From the moment of the establishment of drainage my patient began to improve in every particular. The chest symptoms were slow to disappear, and it was not until the end of two months that all fear of permanent impairment of the lung was dismissed. I am gratified to state that I carefully examined her last week, and found her lungs in perfect condition, and that nearly all evidence of adhesions between the liver and pleura has disappeared, except in the region of the operation. The area of the liver dullness has returned to about normal, being scarcely three and one-half inches perpendicularly in the right mammary line, in place of eight inches as formerly.

Summary.—This case is of interest from the fact that the attack of appendicitis was unusual and developed a large abscess with very slight limiting membrane; that the attack was complicated with a diarrhea, very septic in character, producing without doubt numerous ulcer patches in the small intestines, similar

to the ulcers of typhoid; and that the portal circulation had a double opportunity, from the abscess and from the infected bowel, to gather infection, by which the liver became a new field for infection. It would be interesting to know whether the infection in the liver established numerous small foci of infection, as indicated by Osler, which afterwards coalesced to form one immense abscess a number of months later, or whether the area which finally yielded the result, became all infected at once, to lie practically dormant for a long period. That the liver was infected as early as in August, there is no doubt, since there was marked enlargement of the area of liver-dullness at that time, and it is the writer's opinion that the infection was implanted there, at least, at the time of the diarrhea. Not being familiar with such cases, it seems very remarkable that a patient should carry about a condition capable of producing such grave results, and still remain in apparently good health for so many months.

The condition of lung as described is also worthy of special consideration. Now that the case has reached a successful issue, it is easy to see that our fears as to tuberculosis were unfounded; but to consider the clinical aspect from day to day, and compare it with experiences with general tuberculosis and tubercular meningitis, familiar to us all, and to study the temperature-chart, which for a time did not reach the high figure which was finally attained, and to recall that many cases of general tuberculosis are known to reach a fatal issue without the presence of tubercular bacilli ever having been demonstrated, it is not at all surprising that we considered the tubercular theory with a great degree of concern. Also, the hepatic enlargement not having been satisfactorily accounted for, the idea of tubercular infection of that organ might not have been so very far-fetched.

LICHEN RUBER*

By E. KLAVERNESS, M. D.

SIoux FALLS, SOUTH DAKOTA

In the course of several years of medical practice in this state I have had opportunity, more or less frequently, to see patients suffering from skin diseases, and inasmuch as I once devoted considerable time to the study of this particular field of pathology I have naturally watched with a great deal of interest the run of skin diseases, as it would manifest itself from one year to another in the office work of a general practitioner; further, by refraining

from announcing myself a specialist in dermatology, I believe I have a better foundation to stand upon, and can express myself more unbiased on the frequency of the various skin diseases to be found to-day in the people of South Dakota, than would have been possible under other conditions. From this point of view I have come to the conclusion that lichen ruber must be either a rare disease in South Dakota or else it must have been overlooked or misunderstood more often than necessary.

In order to satisfy my desire for more accu-

*Read before the South Dakota State Medical Association, May 29 and 30, 1907.

rate information about this interesting disease I have deemed it expedient to come before this body of representative medical men from all over the state with the request that you kindly give me in a few words your experience with lichen ruber, thus conferring upon me the favor of either corroborating or correcting my conclusion as already stated. On the other hand I thought that by giving a brief paper on lichen ruber those of you who had not yet seen the disease often enough to feel sure of your diagnosis would remember to be on the lookout if in the future a case of this peculiar and interesting disease should cross your path, for lichen ruber is interesting.

While lichen as a term was used by Hippocrates, Celsus, and Galen to indicate a skin affliction, accompanied by itching and desquamation, it was not until 1857 that Ferdinand Hebra reserved the name for those skin diseases in which papules are the only primary, as well as stationary, manifestation. With this restriction in the use of the word we shall meet with but one condition where it can truly be applied, namely, lichen ruber. As you may know, we still speak of lichen scrofulosorum, but we do so simply because of the legality this name has gotten from old-established custom, while at the same time we are well aware of the fact that both papules and pustules may be found in this ailment.

From this brief review you will at once understand that the salient point to keep in mind, and the characteristic feature in a description of lichen ruber, must be an efflorescence that has the shape of a papule, and while the various authors, as a matter of classification, have subdivided lichen ruber into lichen ruber acuminatus and lichen ruber planus, it should not, in the least, confuse us, because this classification refers only to the character of the papule as being more sharp and pointed in one case and more level or plane in another. The main thing to bear in mind is the fact that these different manifestations are two forms of one and the same disease, where lichen ruber is a good enough collective name.

Clinically, lichen ruber presents itself as an inflammation of the skin in several various ways. Thus we may have the typical picture consisting of deep-red, sometimes pale-red-dish papules of the size of a needle-point to more than that of a pea; other times we may see papulous elevations or plaques as large as a bean, or we may have sharply circumscribed red areas, and now and then diffuse stripes or diffuse red plaques. The eruption may be confined to a few limited places or it may be universal. It may be of a mild nature or so severe as to resist all kinds of treatment, in

which event marasmus and death will be the final outcome. In brief, lichen ruber in its manifestations, course, and clinical picture may prove itself one of the most variable diseases known, and for that reason, I repeat, it is a more than ordinarily interesting disease.

And in order to show you the versatility of lichen ruber let me remind you that the skin is not the only organ that may be afflicted. Also the mucous membranes, preferably of the mouth, tongue, and pharynx, may be the seat of a peculiar eruption, which, if not remembered, would offer room for doubt and wrong diagnosis. This lichenous eruption upon the mucous membranes occurs either jointly with the eruption on the skin or as the sole manifestation of the disease and appears as bluish-white plaques or lines, resembling mother-of-pearl in their lustre. Similar plaques may also at times be found on the glans and preputium internum, a locality well to be remembered. The etiology of lichen ruber is but little known; all agree, however, that the disease is not contagious or inheritable. Men are said to be afflicted more frequently than women, and again, the well-to-do people make up a larger quota of victims than the poor people, in whom the disease is almost unknown. This fact may, to a great extent, be explained on the basis of a predisposition to nervous diseases in the former class, because, according to my experience and method of thinking, no person with a healthy nervous apparatus, and more so where the vasomotor system is intact, would develop any attack of lichen. This would correspond very well to the fact that the disease is found quite often in hysterics (Boeck).

Studied from a pathological-anatomical viewpoint, lichen ruber gives a characteristic microscopical picture, where it may be seen that the pathological process begins with a perivascular infiltration of the corium in its uppermost layers. At the same time the blood-vessels appear markedly dilated. Naturally this process in the corium exerts an influence upon the epidermis, which at times may go so far as to cause a separation of the two layers, but while this is a secondary and passive manifestation of the sufferings of the epidermis we also find some important primary changes, particularly of the rete malpighii and stratum granulosum, where a decided hyperplasia will take place.

Thus I have, in a brief manner, reviewed the pathology of lichen ruber, of which disease I have so far seen only two cases in this state, both of them coming under my observation and treatment during the year 1903.

From what I have already set forth as characteristic of lichen ruber I consider it needless

to describe in detail these two cases, but a few words about them may not be amiss.

Case 1.—Norwegian, 50 years of age. He stated that for eight years he had now and then suffered from an itching disease. Examination revealed that in both groins, on the inside of both thighs, on the scrotum and in the rima inter nates the skin was the seat of an eruption characterized by bluish-white stripes, infiltrated deep-red areas, and small papules, slightly indented in the center and covered by a small, horny scale. Besides this, nothing else could be seen except a pale, blue-reddish, circumscribed area on the left thigh, on the flexor side. He had never used tobacco in any form, and but very little of liquors. He was, however, nervous, and complained of loss of sleep.

Case 2.—Only half a year later a young girl 12 years old, of American-Norwegian descent was referred to me for a stubborn skin lesion on her right leg. It proved to be a particular form of lichen, generally known by the name of lichen ruber planus verrucosus. From personal knowledge of her family I am able to testify to the unsteadiness or rather lability of the nervous system of her relations on her father's side. Her grandfather was a maniac, and several of her uncles and one aunt have shown symptoms of melancholia. Young as she was,

I could only ascertain that she was of an excitable disposition.

Because of the very limited experience I have had with lichen ruber in this state, I can add nothing new, either to the etiology or treatment of this disease, but I decided, nevertheless, to take up this subject, believing that a general expression from so many doctors practicing in South Dakota would form a valuable information.

DISCUSSION.

DR. TEMPLETON, Yankton.—I rise to discuss this subject, not with the expectation of adding anything new to what has been said, but because the subject is an interesting one and calls to my mind a statement made by one of my college professors while a student. He said there were two classes of diseases that every practitioner of medicine should thoroughly master. The first class are the cases that are common, which the physician is called upon to treat frequently. The second class are those that he meets very rarely. There he needs to study closely, in order that he may be able to diagnose and treat them properly when a case occurs in his practice.

I don't know that I have ever had in my practice a case of lichen ruber. If so, I was unable to diagnose it. This must be a rare disease, in this community at least. The speaker says he has seen only two cases of it in his practice, and the last one was four years ago, and he is able to recognize the disease when he sees it.

On account of the rarity of the disease we ought to become thoroughly familiar with it theoretically, in order to recognize it and deal with it successfully when we meet it in practice.

THE DOCTOR'S AUTOMOBILE

By A. D. HARD, M. D.

MARSHALL, MINN.

Quite a number of physicians, mostly from Minnesota, have recently written to me asking for my opinion as to the practical value of the automobile in country practice. In a few sentences I will try to give a composite reply, taking advantage of the extensive circulation of this journal.

A country doctor wishes to be conveyed quickly, surely, safely, and comfortably to his patient's bedside, and back to his office. No means known to the mind of man can meet these requirements so perfectly as an automobile, providing that "troubles on the road" can be eliminated. But, thus far, these troubles form one of the most distinctive features of automobile use. If some physicians, generally those who are mechanics, make a decided success of the automobile, their names appear attached to the testimonials which embellish the usual advertisements sent to physi-

cians, but the remainder of the profession, and this means the greater part, find that a team of bronchos and a fifty-dollar buggy will fill the bill better than an automobile.

In order to caution my brother physicians against disappointment, I will quote the words of a celebrated maker of automobiles, as found in one of his ads in a recent medical magazine: "The most exacting service to which a motor car can be put is that of a doctor's run-about. Like its owner, it must be ready for a call at any moment of day or night, and since time is precious—a few minutes may mean life or death—it must be dependable to the last degree. A car that is liable to derangement of carburetter, ignition, or, most of all, tires, is worse than useless to a busy physician."

I use his words because I can find no better to express my ideas. But, strange to state, this manufacturer is trying to sell to physicians a

car which has all the disadvantages of the average car, and then some others. For instance, his car has small, three-inch pneumatic tires to carry a car weighing eleven hundred pounds in addition to the load. Tire troubles!—There they are. His car clears only eight inches under the rear axle to strike the stones, sod ridges, or even the level road when a wheel drops into a deep rut. Here's trouble. It has four cylinders with a proportionate number of delicate moving parts to wear, break, get out of adjustment, and call for painstaking care. It is gotten up cheaply, as any one can see, in order to cut under, in competition, as to price; and yet he says: "It is tough as a hickory wythe, flexible as it is strong, light as it is speedy, and indestructible as it is handsome in appearance." A doctor who will believe such stuff, and part with his money as a result, will undoubtedly be afflicted with trouble, vexation of spirit, degeneration of morals, and premature death.

The motor vehicle which my prophetic vision pictures as the "doctor's automobile" will be an enclosed, two-cylinder, air-cooled, non-pneumatic tired, simple, and well-constructed carriage. It will clear at least fourteen inches, be suspended on soft springs having universal motion, not weigh over 1000 pounds, be safeguarded in every respect from road-side troubles, and cost about \$1000, and it will be worth every cent of that amount to a country doctor. Until that car appears the automobiles which we are now using will continue to afflict us with the troubles we at present enjoy, manufacturers' advertisements to the contrary notwithstanding.

SEPARATION OF THE URINE OF THE TWO KIDNEYS

George Luys, of Paris, brings forward a new method for the separation of the urine of the two kidneys, by means of the endovesical separator. The advantages of this method are that it is more simple than ureteral catheterization, that it is without dangers, that it is so easily applied that it may be used in many more cases than a more complicated method, which can be practiced successfully only by a specialist, and that the information is quite as exact and valuable as that of the other method.—Medical Record, August 3, 1907.

SEBACEOUS CYSTS OF THE NOSE

By CHARLES D. HARRINGTON, M. D.

MINNEAPOLIS

Operation.—An elliptical piece was removed from the tip of the nose in such manner as to cause the line of suture to come on the under side. When healing was complete the scar could hardly be detected. Nine x-ray treatments added to the appearance by smoothing up the skin.

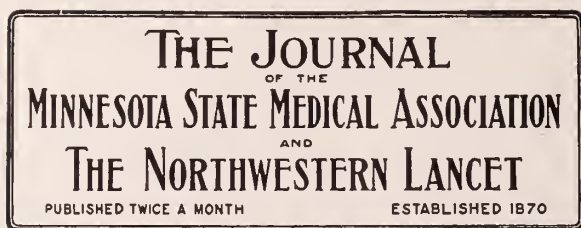
The cuts show the patient before the operation and ten days after.



1. Taken before operation.



2. Taken ten days after operation.



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THE EDITOR AT HOME

With this issue the editorial management of THE JOURNAL-LANCET reverts to the hands that dropped it so hard several weeks ago for a jaunt to Europe. We who surrender the unrequited task recognize the fact that, to say the least, the responsibility for all libelous mistakes can be placed and consequent action intelligently directed, and, what pleases us most, there will be no room for some of our astute and critical friends again to assert that the medical editorials have been written by the printer's devil and all the other kind by his co-respondent, that is to say, during the interregnum.

We say, hail to the editor! While gone he made our hearts glad by souvenir postals from all of Cooke's stopping-places between Blarney Castle and the Matterhorn, and now he brings to us special rejoicing, for upon his shoulders we drop a responsibility which has been so hard to bear during dog-days. Our readers may look forward to columns filled with Scotch humor, French wit, German erudition, English stability, and Italian finesse, which is another term for technic in operations carried on between the editor and the higher critics.

We are off the stage. Farewell.

INSURANCE FEES RESTORED

The Mutual Life Insurance Company of New York has restored the insurance examination fee paid before the period of retrenchment led practically all of the companies to reduce it to \$3.00. The change took place on August 1.

It is not worth while to examine into the causes for the reduction of fees or for their restoration. It is sufficient, as well as gratifying, to know that this large company has taken such action, and in doing so recognizes the value put upon such examinations by the medical profession.

It is to be hoped that the unpleasant agitation of this subject will lead to an even higher standard of examinations, and thus place the matter of life insurance on a still more scientific basis, as the stability of the business depends upon the accuracy of results obtained in the medical examinations of applicants for insurance.

If the other companies follow the action of the Mutual, the profession may congratulate itself that its demand for a \$5.00 fee will have been recognized as a just one.

A WIDER FIELD

For some years it has been customary every summer in France to organize for medical men excursions to the various French watering-places. More recently the plan has been extended, and trips have been arranged to different medical schools, hospitals, and other places of scientific interest, with a view to promoting broader ideas amongst professional men. In a country such as ours, where medical schools are widely separated, it is rather difficult to initiate such a movement, but the idea seems an excellent one and probably nowhere would such a course prove more stimulating and broadening than to our own students who, for the most part, pursue their entire course in one school and in a certain limited number of hospitals, largely under the same teachers. Few men at graduation have any just conception of the relation of their teachers to medical thought and medical men in general, and many a second-rate instructor passes in the eyes of his students, through lack of a wider experience on their part, as a man of unusual intellectual power. To have been intimately associated, therefore, with the teachers of different medical schools and the leaders of medical thought in different centers and countries, is the best means of saving one from a narrow-minded view of medicine and of medical men.

To attend medical meetings, visit good hospitals, medical schools, and libraries, and asso-

ciate widely with the best of the profession available constitutes a means of real advancement of which every medical man should avail himself to the utmost.

THE AUTOMOBILE AND THE DOCTOR

On another page will be found an entertaining and an instructive paper on "The Doctor's Automobile," by a man who sees both the serious and the comic side of the subject. Dr. Hard brings to the consideration of this subject a large experience and much practical ability, he having been one of the first physicians in the country to use the automobile for professional work, and, besides, he is a sort of mechanical genius. Notwithstanding this, we think he does not see the problem in its true light, and as the matter is of very vital interest to every physician we are sure its consideration cannot become stale.

As everybody knows, the automobile is capable of great speed, and, with certain limitations, of great endurance. Many physicians, in both the city and the country, are buying them, and probably for several reasons, which are not to be overlooked. Some buy them for the recreation and pleasure they afford; some buy them for the advertising they furnish; and some buy them for their usefulness. The last, and by far the largest, class, want information, and for such we write.

The first cost of a good machine ranges, as all know, from \$750 to \$3,000; the second cost, or that of maintenance and operation, together with the cost of depreciation, ranges from \$20 to \$200 or more a month; and so the physician, confronted by these widely varying figures, asks himself, Can I afford the cost? The question can be answered intelligently only after a careful consideration of present and prospective conditions.

This self-moving machine, as its name implies, has been largely a toy of the rich and of the fool seeking ostentation by a sensational display of speed and of extravagant expenditure in the cost of the high-priced machines. To meet this demand, wholly unprecedented in the outlay of money for its gratification, the manufacturers have done what? They have made a machine almost faultless in construction, capable of going over practically any kind of road at a speed in excess of that of the ordinary passenger train and of excelling on a good road the speed of the fastest train on any railroad.

To accomplish this end there must be a high horse-power engine, which means excessive weight, and excessive weight requires costly pneumatic tires and other costly parts of ma-

chinery to stand the excessive strains resulting from a high speed on rough roads. This demand, almost unlimited, as to the number of machines required, and almost wholly from the pleasure-seeking crowds, has given the manufacturer little time to consider the need of a purely utilitarian machine, for instance, a machine that will carry one or two persons at a moderate speed and with comfort over country roads. But it is not to be forgotten that such demand has not yet been very loud or very insistent, because, for instance, physicians want to keep up the pace set by the pleasure-seeking dude spinning over paved streets and selected country roads.

From the facts set forth and implied herein, and from those known to every observant person familiar with automobiles, two important conclusions may be drawn.

First, with any good machine now upon the market, costing from \$750 to \$1,750, the excessive cost of maintenance may be so reduced by ordinary care of the machine and by limiting it to a moderate speed, say ten to fifteen miles an hour, that the mileage cost will be less than the mileage cost of horses and carriage. And under such conditions the annoyance from breakdowns, etc., will disappear.

Secondly, a purely utility machine, say, for physicians, can be made that will cost less than \$1,000, will be as comfortable as any doctor's buggy, will greatly exceed the speed of the best horse and will cost less for maintenance, and will so nearly approach the reliability of the horse that the difference may be considered negligible. Such an automobile will come when the demand for the present style is wholly supplied or grows less, and especially when the public becomes tired of present conditions and makes demand for a sensible, useful, comfortable, inexpensive, moderate-speed automobile.

But, the reader may say, this does not answer the question, Can I afford the cost? Then, to be specific, we say, you cannot afford the cost, in money and annoyance, of running, for business purposes, a machine on country roads at a speed intended only for paved streets or good country roads. You can well afford to buy and use any of the first-class machines now on the market, if your practice is fairly large or is increasing, if you value your time and would save a part of that spent in the buggy, if you consider the importance of time in emergency cases, or, in short, if you are a progressive man; provided, always, that the first cost does not mean a mortgage upon your home or your library.

A partial list of some of the northwestern doctors who have purchased automobiles in

Minneapolis and St. Paul during the present season can be seen in our Publisher's Department, and it may be of interest to anyone who is thinking of buying a machine.

ILLEGAL BUT JUST

The supreme court of Missouri has decided that a physician's fee cannot be based upon the wealth of the patient; in other words, that, for instance, a surgeon may not charge a very poor man \$10 for an operation for appendicitis and a very rich man \$500, or even \$50, for the same operation, simply because he is rich.

This decision comes from Missouri, and may seem to some to carry the stamp which the paragraphers put upon other things coming from the state of "Folk" lore. But we think this is not just, and we dare say that there is not a supreme court in the country which would not decide in the same way; nevertheless, the practice is recognized as just and honorable, and highly creditable to the profession, and the rich themselves expect to be charged in this way, and thus do what may seem to be forced charity.

That such a practice, in its very nature, opens the way for great abuse is self-apparent, and it is, again, highly creditable to the profession that abuse of the practice is rarely heard of, and has certainly not become proverbial.

The medical profession has many sins to answer for, and we would not minimize them in the least, but graft, which is commonly supposed to be well-nigh universal, is not, at least, a prominent one. The old-time doctor, compelling universal love because of his fatherly care for his patients, is rapidly passing, and we all love to honor his memory. The physician of to-day may not show the same personal devotion to his patient, but his devotion to the science which saves the life of the patient and throws around the community conditions which make, in no small measure, for the extermination of the physician, is none the less worthy of the admiration of all men, for it is even more self-sacrificing than the faithful, loving, personal attachment which surrounds the old-time doctor with a halo of glory.

If the rich are called upon, or, we should say, are permitted, to foster this science, which has already extended the average life-time an appreciable degree, has banished not a few of the scourges of mankind, and promises to overcome more, it will be a bad omen indeed when the rich do not place justice above statutory law, though the latter be necessary to protect the individual when injustice is done in the name of justice.

REPORTS OF SOCIETIES

CLAY-BECKER COUNTY SOCIETY

A meeting of the Clay-Becker County Society was held at Detroit Monday evening, July 29th, at the Commercial Club rooms. Members were present from every part of the two counties, and a profitable meeting was enjoyed by all. Two new members were received and one application for membership. Papers were read as follows: "Puerperal Eclampsia," by Dr. F. H. Alexander, of Barnesville; "Ectopic Pregnancy," by Drs. Weeks and Barton, of Detroit and Frazee.

E. R. BARTON, M. D., Secretary.

WABASHA COUNTY SOCIETY

The Wabasha County Society held its thirtieth annual meeting at Plainview on July 11th, Dr. J. A. Slocumb, the president, presiding, and Dr. E. J. Smith was elected temporary secretary, Secretary Dr. W. F. Wilson being detained at home by sickness in his family.

Papers were read by Dr. E. H. Bayley, of Lake City; Dr. R. C. Dugan, of Eyota; Dr. J. T. Asbury, of Wabasha; Dr. W. T. Adams, of Elgin; Dr. J. C. Adams, of Lake City; and Dr. J. P. Dougherty, of Wabasha.

Drs. D. P. Dempsey, of Kellogg, and J. T. Asbury, of Wabasha, were elected to membership.

The following officers were elected: President, Dr. J. P. Dougherty, Wabasha; vice-president, Dr. H. T. McGuigan, Mazeppa; secretary and treasurer, Dr. W. F. Wilson, Lake City; delegates, Dr. E. H. Bayley, Lake City, for 1907, and Dr. W. T. Adams, for 1908.

In October a joint meeting with the Goodhue County Society will be held at Red Wing.

CAMP RELEASE DISTRICT SOCIETY

The regular quarterly meeting of Camp Release District Society was held at Renville, Thursday, July 25th, Dr. E. O. Giere, of Madison, presiding.

The membership fee was made three dollars and the annual dues four dollars. The following papers were read: "A Physician's Problem," by Dr. E. O. Giere, of Madison; "Placenta Previa," by Dr. O. S. Hutchins, of Canby; "Death of Fetus During Pregnancy," by J. W. Helland, of Maynard.

The next meeting will be held at Clarkfield Thursday, October 24.

R. D. ZIMBECK, M. D., Secretary.

SOUTHERN MINNESOTA ASSOCIATION

The sixteenth annual meeting of the Southern Minnesota Society was held in Rochester on the 1st, with a large attendance. A special clinic was given at St. Mary's hospital for the benefit of the members present at the meeting. The program consisted of nine papers, all of which were enjoyed and some of which were discussed at length. The following officers were elected for the coming year: President, Dr. C. A. Cooley, Madelia; first vice-president, Dr. F. H. Rollins, St. Charles; second vice-president, Dr. George Schulze, Owatonna; secretary and treasurer, Dr. W. T. Adams, Elgin.

NEWS ITEMS

Dr. G. W. Dahlquist has moved from Cokato to Lancaster.

Dr. S. G. White, of Minot, N. D., has moved to Ambrose, N. D.

Dr. O. F. Melby, of Argyle, has moved to Thief River Falls.

Dr. P. E. James, of Hutchinson, has moved to Kimbleton, Iowa.

Dr. R. L. Wiseman, of Pine City, is seriously sick in a St. Paul hospital.

Dr. R. B. Lees, of White, S. D., has gone East for special post-graduate work.

Dr. S. P. Seaberg, a 1907 graduate of the State University, will locate in Hanska.

Dr. E. M. Meadows, of Oakes, N. D., has returned from Canada, where he went for a rest.

Dr. W. H. Bodensab, of New Salem, N. D., has been doing post-graduate work at Johns Hopkins.

Dr. J. D. Leith, of Ardoch, N. D., has decided to locate either in British Columbia or Washington.

It is reported that Dr. H. L. Artz, of Jackson, will establish a sanitarium in South Dakota, probably in Rapid City.

Dr. Wm. Corpron, who has practiced at Redwood Falls for the past six years, has moved to North Yakima, Wash.

Dr. C. R. Christenson, of Starbuck, has gone to Europe for study and recreation. He will be absent two or three months.

Dr. Karl E. Bergquist has sold his practice at Cokato and will locate in Wisconsin, where he has been offered a partnership.

Dr. Edward Fortier, of Little Falls, has become assistant to Dr. E. J. Davis, surgeon of the Soldiers' Home at Minnehaha.

Dr. Walter J. Marclely has arrived from Massachusetts and begun his work as superintendent of the State Sanitorium at Walker.

Minot, N. D., will build a hospital for the care of cases of contagious diseases. The building will cost between \$2,000 and \$3,000.

Green Falls, Montana, is about to erect a \$50,000 hospital. Mr. W. G. Conrad, of Great Falls, is chairman of the board of trustees.

Dr. R. L. Murdy, of Aberdeen, S. D., has been spending some time in visiting the hospitals of the Twin Cities, Rochester, and Chicago.

Dr. Gisler Bijornstad, of Albert Lea, is visiting the hospitals of the East, and it is his intention upon his return to move to Minneapolis.

The Stearns-Benton County Medical Society held its quarterly meeting in July at Melrose. The members were entertained by Dr. P. A. Hilbert at his residence.

Dr. J. W. Little, of Minneapolis, will return from Europe about Sept. 1. Dr. Little has been attending surgical clinics in Leeds, Paris, and Berne for the past three months.

At the July meeting of the Houston-Fillmore County Medical Society, Dr. Edward Evans, of LaCrosse, Wis., Dr. A. R. Colvin, of St. Paul, and Dr. C. P. Robbins, of Winona, read papers.

Dr. W. L. Freeman, of Chatfield, has purchased the practice of Dr. G. A. Holdridge, of Foley. Dr. Holdridge will take a post-graduate course in Chicago and then locate elsewhere.

The Benedictine Sisters, of Yankton, S. D., have \$30,000 in sight for a new hospital building, and \$50,000 will probably be raised by a bond issue. Dr. L. C. Mead has accepted a position as the building committee and he will have nothing but a thoroughly modern hospital.

The Minnesota Pasteur Institute, conducted by the state, is now ready for patients. It is located on the University grounds, and is in charge of Dr. Orianna McDaniel, who has been connected with the laboratory work at the University for several years. Treatment at the institute is free to residents of Minnesota.

At the quarterly meeting of the Camp Release Society, held at Renville, a banquet was given in the evening, and a number of citizens were invited in to meet the visiting phy-

sicians, thus bringing professional men into contact with business men, which is an admirable thing to do on all proper occasions.

The physicians of Butte, Mont., have organized a company with a capital stock of \$150,000 to build a general hospital. The building will be four stories high, and will be a model structure in every respect. Its management will be on the broadest lines. Drs. J. A. Donovan, I. D. Freund, M. G. MacNevin, George R. Blackburn, W. L. Renick, E. F. Magin, and R. C. Monohan are on the board of directors.

The Fourth District Medical Society of South Dakota will hold a meeting in Huron on Sept. 11, which is Wednesday of the State Fair week in that city. The committee is planning a large and interesting program for this meeting. There will be some distinguished physicians, and personal invitations will be sent to every doctor in the state to attend. Owing to the fact that the State Fair will be in session, it is believed a very large attendance will be secured.

All the candidates before the North Dakota state board of medical examiners at the July examination passed and received certificates. The following is the list: G. F. Walter, Sharon; C. A. Barton, Turtle Lake; Oscar O. Larson,

River Falls, Wis.; Charles Voss, Haley, N. D.; H. A. Lamoure, Grafton; Bell McLean, Devils Lake; C. Lindberg, Fairdale; M. E. Trainor, Lansford; C. L. Rodgers, Hankinson; K. Kay-sen, Ashley; E. W. Arnold, Medford; E. Wane, Lankin; F. A. St. John; G. M. Doran, St. Paul; G. L. Ruddell, Plaza; H. W. Miller, Jamestown; W. M. Hotchkiss, Jamestown; W. H. Withe-stine, Rochester, Minn.; A. W. Bostough, Dwight; P. J. Burshein, Palermo; J. R. McKay, Tyner.

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DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF JUNE, 1907

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF JUNE, 1907

STATE INSTITUTIONS.	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Fergus Falls, Hospital for Insane.....	12	1	1	1	..	..	..	..	..	..	..	1	..	..	..
Rochester, Hospital for Insane.....	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Peter, Hospital for Insane.....	5	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Anoka, Asylum.....	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hastings, Asylum.....	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Deaf.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Blind.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Feeble Minded.....	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Owatonna, School for Dependents.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stillwater, State Prison.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Cloud, State Reformatory.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Red Wing, State Training School.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Minneapolis, Soldiers' Home.....	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals.....	27	2	1	1	..	..	..	..	..	..	..	1	..	..	..

*No report received

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF JUNE, 1907

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Albert Lea.....	4,500	5,657	5			1					1						2
Anoka.....	3,769	4,053	5														
Austin.....	5,474	6,489	2														
Barnesville.....	1,326	1,566	2														
Bemidji.....	2,183	3,800	5														
Blue Earth.....	2,900	2,364	1	1													1
Brainerd.....	7,524	8,131	18	1		2											
Chaska.....	2,165	2,085	2														
Chatfield.....	1,426	1,300	*														
Cloquet.....	3,074	6,117	*														
Crookston.....	5,359	6,794	4					1									
Detroit.....	2,060	2,149	2														
Duluth.....	52,968	64,942	79	5		13	1	6	3	1		2		2	6		1
E. Grand Forks.....	2,077	2,489	1		1												3
Ely.....	3,712	4,045	3		1										1		
Eveleth.....	2,752	5,332	3														
Faribault.....	7,868	8,279	*														
Fairmont.....	3,440	2,955	*														
Fergus Falls.....	6,072	6,692	7														
Granite Falls.....	1,214	1,340	0														
Hastings.....	3,811	3,810	*														
Hutchinson.....	2,495	2,489	2														
Jordan.....	1,270	1,311	0														
Lake City.....	2,744	2,877	4														1
Litchfield.....	2,280	2,415	2														
Little Falls.....	5,774	5,856	4	2													
Luverne.....	2,223	2,272	1														
Le Sueur.....	1,937	1,842	2		1												
Madison.....	1,336	1,604	1														
Mankato.....	10,559	10,996	13	1		2											
Marshall.....	2,088	2,243	*														
Melrose.....	1,768	2,151	*														
Minneapolis.....	202,718	261,974	220	21	4	27	5	2	2				6	1	7	1	12
Montgomery.....	979	1,281	0														
Montevideo.....	2,146	2,595	1		1												
Moorhead.....	3,730	4,794	3			1											
Morris.....	1,934	2,003	*			1									1		
New Prague.....	1,228	1,419	1														
New Ulm.....	5,403	5,720	4	1													1
Northfield.....	3,210	3,438	4														1
Ortonville.....	1,247	1,612	0														
Owatonna.....	5,561	5,651	3	1													1
Pipestone.....	2,536	2,885	0														
Red Lake Falls.....	1,885	1,797	0														
Red Wing.....	7,525	8,149	6					1									2
Redwood Falls.....	1,661	1,806	0														
Renville.....	1,075	1,229	0														
Rochester.....	6,843	7,233	7			1											
Rushford.....	1,100	1,133	0														
St. Charles.....	1,304	1,238	*														
St. Cloud.....	8,663	9,422	5	1													
St. James.....	2,607	2,320	0														
St. Paul.....	163,632	197,323	188	22	3	17	6	4	2		1	1	3		6		10
St. Peter.....	4,302	4,514	4	1													1
Sauk Centre.....	2,220	2,463	0														
Shakopee.....	2,046	2,069	1														
Sleepy Eye.....	2,046	2,312	0														
So. St. Paul.....	2,322	3,458	4	1		1											
Stillwater.....	12,318	12,435	7														
Thief River Falls.....	1,819	3,502	0														
Tower.....	1,366	1,340	*														
Tracy.....	1,911	2,015	0														
Virginia.....	2,962	6,056	*														
Wabasha.....	2,528	2,619	*														
Warren.....	1,276	1,640	1			1											
Waseca.....	3,103	2,838	0														
Waterville.....	1,260	1,383	2														
West St. Paul.....	1,830	2,100	1							1							
Willmar.....	3,409	4,040	0														
Windom.....	1,944	1,884	1														
Winona.....	19,714	20,334	10	1		1							1				
Worthington.....	2,386	2,276	4										1				

*No report received Health officer not doing his duty

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF JUNE, 1907

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Fuerial Septicemia	Cancer
Ada.....	1,253	1,515	2	1	1	1											
Adrian.....	1,258	1,184	1														
Aitkin.....	1,719	1,896	3														
Akeley.....		1,636	3														
Alexandria.....	2,681	3,051	0														
Appleton.....	1,184	1,321	0														
Belle Plaine.....	1,121	1,301	0														
Benson.....	1,525	1,766	2														
Breckenridge.....	1,282	1,850	1			1											
Buffalo.....	1,040	1,124	1														
Caledonia.....	1,175	1,405	0														
Canby.....	1,100	1,505	0														
Cannon Falls.....	1,239	1,460	0														
Cass Lake.....	546	1,062	1														
Chisholm.....		4,231	11	1													
Dawson.....	962	1,056	4		1	1											
Delano.....	967	1,023	0														
Fosston.....	864	1,000	1														
Frazee.....	1,000	1,146	0														
Glencoe.....	1,780	1,805	0														
Glenwood.....	1,116	1,718	0														
Graceville.....	856	1,032	1														
Grand Rapids.....	1,428	2,055	0														
Hallock.....	805	1,014	0														
Hibbing.....	2,481	6,566	5														
Jackson.....	1,756	1,776	1														
Janesville.....	1,254	1,205	3														
Kasson.....	1,112	1,049	3														
Kenyon.....	1,202	1,252	0														
Lake Crystal.....	1,215	1,231	0														
Lanesboro.....	1,102	1,041	0														
Long Prairie.....	1,385	1,256	0														
Madelia.....	1,272	1,290	0														
Milaca.....	1,204	1,319	0														
Mountain Lake.....	959	1,063	2														
North Mankato.....	939	1,129	2														
North St. Paul.....	1,110	1,400	1														
Olivia.....	970	1,019	0														
Osakis.....	917	1,056	2														
Park Rapids.....	1,313	1,719	0														
Pelican Rapids.....	1,033	1,095	0														
Perham.....	1,182	1,366	0														
Pine City.....	993	1,092	1														
Plainview.....	1,038	1,140	0														
Preston.....	1,278	1,320	1														
Princeton.....	1,319	1,704	0														
Rush City.....	987	1,041	0														
Rushford.....	1,062	1,040	3														
St. Louis Park.....	1,325	1,491	1														
Sandstone.....	1,189	1,589	3														
Saulk Rapids.....	1,391	1,552	0														
Scanlon.....		1,122	1														
South Stillwater.....	1,422	1,572	0														
Springfield.....	1,511	1,546	2														
Spring Valley.....	1,770	1,573	0														
Staples.....	1,504	2,163	0														
Two Harbors.....	3,278	4,402	1														
Wadena.....	1,520	1,868	4														
Wells.....	2,017	1,814	0														
West Minneapolis.....	2,250	2,530	0														
Wheaton.....	1,132	1,346	0														
White Bear Lake.....	1,288	1,724	1														
Winnebago City.....	1,816	1,553	2														
Winthrop.....	813	1,031	0														
Zumbrota.....	1,119	1,129	2														
State Institutions.....			27	2	1	1											
Other parts of State.....	1,012,328	1,085,886	385	36	6	34	3	14	3	5	1	2	5	1	6	2	24
Total for State.....	1,751,395	1,979,658	1125	104	18	110	16	29	10	8	2	5	22	5	29	3	64

Still births and premature births, 68 (not included in above totals).

*No report received. Health officer not doing his duty

THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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MEDICINE, THE PHYSICIAN, AND THE PUBLIC*

BY H. A. TOMLINSON, M. D.

Superintendent of the St. Peter State Hospital

ST. PETER, MINN.

The term medicine has been and is still used so indiscriminately, that the symbol has come to represent the varying conceptions of those who use it to define their particular formula of what is constituted in its practice. It is not surprising therefore to find such confusion as there is in the public mind, with regard to what is now implied by the term, when used to designate the co-relative data scientific method has formulated as the basis of the healing art. The term was probably originally synonymous with ministration, and is represented in history and tradition as the means by which the preservation or restoration of the physical well being might be accomplished. The significance of the term has varied very little until recently; so that in each epoch of history it has represented the current conception of the relation of the human organism to the inimical conditions in its environment, and the means to combat them. The fact that these inimical conditions were believed to be supernatural, led to the invocation of supernatural means to avoid or dissipate the illness they gave rise to, and to efforts to propitiate the source of this supernatural power. The women, on account of the family relation, were the natural care-takers of the sick, and out of their experience in this capacity there gradually grew a body of customs and traditions with regard to the means that were efficient in relieving suffering, and apparently dissipating

the illness which caused it. Among the men, because some were apparently adept in propitiating the supernatural powers, these became dominant as standing between the members of the family or tribe, and the wrath or malignancy of the supernatural influence, and this tribal relation made them the final arbiters as to the means and methods to be used.

Both this belief as to the origin of disease, and the traditions concerning the means of cure, persist in more or less modified form, and are still largely the basis of public opinion with regard to medicine as an art. Nevertheless, in the oldest written records of civilization there is evidence that, as soon as a tribe or state was organized, legislation as well as instruction were largely taken up with the provision of means and the establishment of methods for the prevention of disease, and the amelioration of suffering, because the amelioration of suffering would naturally appeal first to every one; and the prevention of disease would add to the efficiency of the members of the tribe or the people of the state. On account of the common belief as to the origin of disease, most of this instruction was embodied in the formulæ of religion; because only in this way could it command attention and be made effective. Naturally, too, the representatives of religion in the state became the exponents of the healing art, and through their learning, the conservators of medical knowledge.

Unfortunately, the basis of medical knowledge

*President's Address, read before the Minnesota State Medical Association, Aug. 13 and 14, 1907.

continued to be the relation of the supernatural to the cause of disease. The formulæ for the preservation of health and the cure of disease, through long usage, became rigid, while the conditions in the environment were constantly changing; so that what was originally apparently efficient, became harmful, as have the variations of these formulæ that persist in the traditions and superstitions of the present. The history of the different plagues in Europe, Asia, and India, well illustrates the disastrous results that follow the persistence of superstition; just as the presence, in a modified form, of these same beliefs hampers the intelligent supervision of the public health, and makes possible the epidemics of preventable disease that still occur. Furthermore, while the progress of civilization has made for the general enlightenment in every other direction, with regard to medicine, superstition is still dominant in the public mind; with the belief in the occult origin of disease, and the efficiency of supernatural power in its cure. It is for this reason that people who are otherwise intelligent will pin their faith to the assertive statements of the untrained directions of the priest of some quasi religious medical cult, whose procedure differs only in detail from the incantations of the Indian medicine man. Or else, they dose themselves indiscriminately with concoctions that would emulate the compounds of the Chinese pharmacist. It is also a fact, that those who are skeptical of the skill of the trained physician, and scoff at the claims of scientific medicine, will trust themselves, and the welfare of their families, unreservedly to the tender mercies of the illiterate quack, and dose their children indiscriminately with any mixture that is suggested to them by their neighbor, or advertised in the newspapers. These tendencies are inherent in human nature, and have their basis in the vanity which prompts us to resent authority and scoff at the trained intelligence, when it concerns itself with the physical relationship of the human organism to the conditions in its environment. Also, we cling to the superstition that makes us want to look for something outside of ourselves and our environment as the cause of our physical ills, because in that way we hope to escape individual responsibility. Then, too, in these days of the apotheosis of industrialism, which is as predatory in its way as was the feudalism of the middle ages, and quite as wasteful of human life; there is the disposition, not only to live in the present, but to resent the claims of any criteria that apparently interfere with the maximum of activity toward self aggrandisement. We are impatient of anything that savors of law. In other words, we do not want to stop to think of the effect of our present acts upon our future capacity, and when we break down, or become ill, our self-consciousness prompts us to

visit our resentment upon the profession whose very existence is a standing criticism of our ignorance and indifference to our own welfare.

The effort to obtain all sorts of medical legislation during the past ten years, and the persistent struggle of the quack and the irregular practitioner to obtain legal recognition, and an official status, have made conspicuous, not only the difference between the conception of medicine as a science by the educated physician, and as an art by the layman, but also the disposition on the part of the general public to apply the same standards in estimating the motives of those who appeal to the legislature in behalf of the public welfare, and those who seek only their own aggrandisement at the expense of their fellows. In the struggle of the profession for the encouragement of scientific medicine, and the protection of the public from the exploitation of its own weaknesses, there has been repeated the experience of all time. Those who would be most benefited are the least sympathetic, and we are judged by commercial standards; while the quack and the pretender have the tacit support of those whom we are trying loyally to serve. Even the law, in the effort to preserve personal liberty, leans toward the implication of license to practice upon the weakness and credulity of the afflicted, rather than liberty to work for the public good; for the law either licenses the unskilled to practice without training, or ignores the wanton activity of the pretender. The fact is not appreciated that these irregular practitioners seek from the legislature and the courts, the privilege to deceive, and legal protection from the inevitable results of their ignorance and cupidity.

Then, too, many of these people are sincere, and they mistake their innate knowledge of the weaknesses of humanity, and the credulity of human nature, for intelligence and understanding; while with the intrepidity of ignorance, and the fanaticism of preconceived ideas, they play upon the superstitious weakness of their clients. The history of medicine is replete with accounts of just such inconsistencies, and yet each generation believes that its experience is singular. We fail to recognize that while human nature is more enlightened it has not changed, and we can progress only as fast as public enlightenment will allow. It is human nature to be suspicious of what we do not understand, and to resent the possession of special knowledge by another; while the personal equation prompts us to mistake our narrow horizon for a picture of the universe. We as medical men, are prone to forget that we have the same characteristics and tendencies that we criticise in the general public. We demand recognition of a disinterestedness we do not always show as a profession, and confidence in a body

of doctrine to which we do not all subscribe, nor loyally support.

The application of the science of medicine to the art of healing is what brings confusion and controversy, and unfortunately this is the aspect of medicine that is most conspicuous in public professional relations. Therefore, the differences among physicians always obscure the vast body of scientific facts upon which they agree, upon which the practice of their art is based, and without which that art would be misapplied and of no avail. It is seldom that two medical men agree as to the details of treatment, or in the conduct of a certain surgical procedure. Indeed, sometimes the methods and remedies used by one man seem to be the antithesis of those used by another, and yet both will get good results; and each has, in all probability, reasoned from the same premise of established fact. It is the misfortune of our profession that our greatest differences and most acrimonious discussions occur over non-essentials, and there is no part of our work in which the personal equation is more conspicuous than in the details of treatment and operative technique. The quarrels of physicians are proverbial. The record of them is as old as history. From time immemorial they have made us the butt of the jester. They have furnished the novelist with material for many a savage sneer; and more humiliating than all the rest, our quarrels are the foundation of the success of the quack and irregular practitioner. For, realizing that the world does not credit us with disinterested motives, they exploit our weakness, magnify our jealousies and differences, and profit by the low estimate of our motives, held by the public, when we resent their vulgar and blatant pretensions. Whether he will or not the medical man occupies a distinct place in the community, and because the nature of his calling makes his relation to his patient the most intimate outside of the family, much is expected of him, and he is judged by a different standard than are his fellows. Human weaknesses, when he shows them, seem more pitiable and contemptible, and while the cold selfishness of human nature makes the public unappreciative of his sacrifices in behalf of his patients, and superstition makes them suspicious of his work, still they expect the physician to be free from the faults they condone in themselves and their neighbors. Our training gives us a traditional moral status, as does that of the clergy. The public expects the quack and pretender to work upon their credulity, and this is particularly true of the quasi religious cults; but the despair of relief from ills that have no physical basis, or that from their nature are hopeless, prompts them to try their luck, just as in the presence of imminent danger the most irreligious are prompted to pray.

We are often blamed by the thoughtless for not borrowing some of the methods of the pretender, and using them under the guidance of a trained intelligence. These people lose sight of the fact that our trained intelligence makes us see not only the futility of such methods, but their essential harmfulness as well. Besides, it is to be noted among physicians, that such methods as appeal to the credulity of the patient, are used by medical men just in proportion with their lack of knowledge or training in scientific methods.

Medicine as a science is peculiar in that it depends upon a kind of knowledge that is not common, and bears no relation to the ordinary affairs of men; so that there is no standard by which the general public may form an intelligent estimate of what should be the qualifications of those who engage in its practice; while medicine as an art, is singular in that it deals with living beings, no two of whom are alike, under conditions which are widely at variance with all other aspects of human experience. The most trifling case of illness presents so wide a divergence between the abstract entity involved in the perverted physiological process, and the illness as a whole, conditioned by all that enters into the environment of the individual who is ill, that to estimate the one by the other is as unsatisfactory as it is futile to attempt to determine by the history of an illness in one case exactly why another apparently similar should run such a different course.

In recent years, the term medicine has been used in so many different senses, that upon perversion of its definition has rested most of the claims of those who seek legislative authority for their special cult, or protection by the law from the consequences of their ignorance, and yet from the origin of the term, the history of the art, and afterward of the science on which its practice is now based, medicine must necessarily include in its definition everything that can help to the knowledge of the human organism, and the formulation of this knowledge into methods for the prevention and cure of disease; therefore there can be no limit set to what is constituted in the practice of medicine.

The greatest stumbling block in the way of the proper definition of the practice of medicine, is the use of the term as a synonym for the giving of drugs in the treatment of disease; so that the general public believes that the practice of medicine is constituted in the giving of drugs; while the different special cults use this definition as a defense before the courts. In order that this misconception shall be done away with, we must recognize that the profession as a whole is in a great measure responsible for the attitude of the public which we rightly deplore. We use terms too

loosely, and too frequently in our practice, because of the paucity of our knowledge of other means, tacitly admit the implication that we are simply purveyors of drugs. The tendency of the times is to be superficial, and to reduce everything in medicine to a mechanical formula. The physician loses his individuality, and to save himself mental effort he yields to the wiles of the book agent who sells manuals to aid the "busy practitioner," and to the persuasive eloquence of the gentlemanly representative of the manufacturing pharmacist, who would relieve him of the mental effort involved in the practice of pharmacology and the writing of prescriptions. The latter is largely responsible for counter prescribing on the part of the druggist, and self-dosing by the general public. When the patient is sent to the drug store for a bottle of Smith's emulsion, Jones' elixir, or Brown's compound, he soon comes to believe that he may just as well do his own prescribing, and also advise his neighbor in time of trouble.

The most serious responsibility of the medical profession for the ills of which they complain, and for which they blame the public, is the growing tendency to divide the practice of the art of medicine into specialties, and to adopt particular designations, with the object to set apart the individual from his fellows, and to give him a distinction above his brother physicians. Out of this disposition has grown the tendency toward the ready-made specialist; thus placing the specialties in medicine on a level with the quack and pretender in the public mind; for all irregular practitioners claim to be specialists, and it is as such that they gain recognition. It is the boast of this type of practitioner that thorough training and experience in general medicine are not necessary. Unfortunately we have too many of this kind of specialists, and they are steadily bringing opprobrium upon the profession, because their clients, going from one to the other, find all of the symptoms of which they complain attributed in turn to a different bodily function, according to which subdivision of the organism each specialist has under his care. Is it any cause for wonder that the patient grows suspicious, and concludes that he is being humbugged, or that he finally goes to the quack; whose greater knowledge of human nature enables him to soothe his patient's vanity, and stimulate his superstitious credulity, while with the bold assurance born of the intrepidity of ignorance he inspires a confidence that not even failure can shake! Besides, the quack has borrowed the paraphernalia of the "specialist," and surrounds himself with an armamentarium which has all the outward and visible signs of legitimate medicine, and the quack is often more skilled than is his

regular competitor in the mechanical appliance of these methods.

Then, too, we bring about confusion by designating specialized methods as independent subdivisions of medicine. We talk about surgical and neuropathology, gynecological and internal diagnosis; just as if pathology could be more than pathology, or diagnosis a matter of subdivisions. We might as well talk about homeopathic surgery, or osteopathic pathology. Everything about the work of the surgeon that is scientific is medical: His art is a branch of therapeutics. The surgeon makes a physical examination of his patient, just as any other competent medical man does, and he is dependent upon the laboratory for the information that enables him to make an accurate diagnosis, and to estimate what will be the result of his operative interference. Those who confine themselves to any one of the subdivisions of technical therapeutics are but mechanics, if they do not have a thorough training and considerable experience in general medicine!

And so it is with any one who would select a particular part of the organism to treat, as if it existed *sui generis*, or choose a special therapeutic method, as though perversions of functional activity and disease arose *de novo*. So, too, the neurologist studies and describes morphologic changes, which are terminal, not as the result of pathological processes in the general organism, but as the disease itself: While the psychiatrist builds metaphysical conceptions out of the perverted cerebral activities in the insane, and erects them into entities which he calls disease of the mind. They both ignore the fact that the nervous system developed only as the need for it arose, to correlate the activities of the rest of the organism, and direct them to the maintenance of its relations with the ever-varying conditions in the environment. Besides, as the nervous system supplies nothing toward its own nutrition, and exercises no control over the elimination of the waste products of its activity, therefore it cannot be, any more than can any other special part of the organism, the primary seat of disease. We have studied biology, development and physiology to very little purpose if we do not realize the relativity of all parts of the organism, and their primary dependence upon the functions of nutrition and waste; so that it is impossible for disease to exist in the organ without involvement of the organism. Besides, the previous involvement of the organism may be, and usually is, more important than the pathological process in the particular organ or part. The work of the biologist and the researches of the physical chemist, both tend to confirm what the hypothesis of evolution implies. That is, that each part of the organism is dependent upon the whole, and the whole is directly affected by defect, weakness, or

disease in the part; and that the persistence of perversion in any form of functional activity implies reduced capacity, and lessened resistance in the whole. The obvious sequence in this implication is, that pathology is necessarily relational, and that consequently our therapeutics must be general. Also, that pathologists will eventually find out that all disease processes are primarily general, with the local manifestation in that part of the organism which is congenitally the weakest, and therefore the least resistant.

When we come to analyze the conditions out of which have grown the differing points of view of the medical profession and the general public, with regard to what is constituted in the practice of medicine, it is evident that there is nothing peculiar in our experience. Every form of human activity that is based upon a body of definite and co-ordinated knowledge, outside of the every day experience of mankind, is dependent upon the education of public opinion for its recognition. The medical profession is simply a part of the social organism which is still in a state of unstable equilibrium, because the data of its constituent elements have not been definitely correlated. Therefore their definition is not uniform, and the differing points of view make for suspicion and distrust, lead to acrimonious debate, and futile discussion of non-essentials. All of the processes of civilization do not advance equally rapidly, and in medicine, during the past fifty years, there has been a complete reconstruction of the basis of medical practice; while the point of view of the general public has remained practically unchanged. Besides, even among the members of the profession, according to the nature of their training, and as the result of the inertia of custom and tradition, the elements of conflict between the scientific data upon which medicine is now based, and the persistent predisposition toward the older metaphysic and anthropomorphic conceptions of the practice of the art, are still present. This conflict has resulted, not only in the multiplication of schools, just as after the reformation there gradually developed a multiplication of sects in religion, but it has also degenerated into the attitude of *laissez faire*, on the part of those who make what they call the practical needs of their every day work, an excuse for the loss of that scientific enthusiasm with which they were imbued when they left college. On the other hand, there is just as much that is reprehensible in the attitude of those medical men whose professional life has been spent in the laboratory, the hospital ward, or the consulting room. They become imbued with the mechanical formulæ and conventional methods of their work, ignore the individuality of the patient, and would mould the patient in the disease, while their indifference to the effect of the environment upon

the individual makes them scorn those manifestations of disease which are so apparent in the every day work of the general practitioner. Even in our medical organizations there is the tendency to multiply differences, for each group to set itself above the common, and to consider themselves more scientific, just in proportion with the intricacy of their terminology, and the elaborateness of their technique, as illustrated in their work and papers.

Technical knowledge may be acquired from books, or in the laboratory, but to apply this knowledge in practice is a different thing. Men living entirely in the atmosphere of the laboratory or hospital, or whose work is confined to one special field, may become highly trained, but they are not cultivated. On the contrary, the men who look upon medicine as a trade, and not as a profession; who believe that the possession of a diploma entitles them to journeymen's wages, and that there is nothing more to acquire, except facility in the handling of tools, are even more short-sighted, and, on account of their attitude toward their profession, a very common cause of the low estimate placed by the public upon medical training. If the layman finds nothing distinctive in the intellectual balance of the physician; if he is coarse, vulgar and partizan; or narrow, pedantic and intolerant, it should not be surprising if the layman sees no evidence of special fitness to distinguish the trained physician from the quack and the pretender.

There is nothing so valuable as that wide culture which enables the physician to see his patient through the disease, and to weigh the influence over his patient's welfare of all the conditions in his environment, material, social, and domestic, and give each its true value as a factor in the illness, or as influencing the prospect for recovery. Therefore we will serve best the interests of our patients, our own interests, and accomplish most for the welfare of our profession, just in proportion as we recognize our position as individuals in the community, our relation to the general public: And see clearly that we must present in our conduct the evidence of that wide culture our special training implies.

There is the disposition on the part of the members of the medical profession to follow the tendency of the times toward organization; and, fortunately, through the influence of our great national association, this organization is becoming general rather than special, as it has been to a large extent, heretofore. We must not forget, however, that the character of the organization cannot rise higher than its source. The organization cannot present ideas nor practice virtues that do not exist in the individuals composing it, and we must not delude ourselves with the belief that we can cast the responsibility for our pro-

professional welfare upon the organization, and ignore our individual responsibility. We cannot stoop as individuals to charlatanism and commercialism, and expect the professional organization to cast the cloak of respectability over our acts. Nor can we hope that the virtues of our association will blind the public to our weaknesses as men.

Just as the end of all science is unity, so we must first present to the public the evidence of our right to their respect and recognition, by showing in our public relations that agreement in the essentials of our practice, which will inspire confidence, and that breadth of culture which will enable us to assume the judicial attitude, and to profit by everything in our experience that will help us to deal intelligently with those conditions in the general social environment through which we must work for the public enlightenment as to what is constituted in medicine as a science, and in its practice as an art.

Most of what has been said here is trite as

well as commonplace, but, somehow, the commonplace seems to need repetition, because we are disposed, in our judgment of things, to ignore the commonplace for the exceptional, which is always conspicuous. The commonplace, too, represents the sum of human experiences with regard to which there is general agreement, and, therefore, its value is proportionately great. It is also true that it is easy to be philosophical on paper and in the retrospect, but it is very difficult to put our faith into practice, when the hardships of professional experience affect us personally, and our livelihood is at stake. Therefore, we should not be blamed if we become exasperated at the want of consideration for our efforts in behalf of our patients, resentful at the lack of appreciation of our disinterestedness in our work, inclined to be cynical concerning the public conscience and its enlightenment, suspicious and distrustful of the future. For, after all, we, too, are but human, having the common weaknesses of our kind, and subject to the same temptations and limitations.

REFRACTION*

By J. G. PARSONS, M. D.

BROOKINGS, S. D.

All modern medical practitioners are aware of the fact that refractive errors have an influence on the general health. They have had frequent opportunities to observe the results which follow the wearing of an accurate correction. They note a relief from persistent headaches, migraine, and other nervous disturbances and gastric disorders commonly spoken of as "bilious attacks." Witness the statement of Musser of Philadelphia: "Who has not seen correction of errors of refraction relieve so-called 'bilious attacks,' periodical vomiting, anorexia, indigestion, and other gastric symptoms? The cure of grave organic ocular defects relieves similar gastric conditions."

It is apparent, however, to those of us who do eye and ear work exclusively that very few men in the practice of medicine realize the extent to which errors of refraction enter into the causation of extra-ocular disease. Few have looked into the subject far enough to become sufficiently familiar with it to appreciate its importance. One reason for this is the failure on the part of the medical schools, in the past at least, to emphasize this matter sufficiently, and the failure on the

part of ophthalmologists to bring it forcibly to the notice of the practitioners in other fields.

The duty of the ophthalmologists, in this respect, has been very forcibly pronounced by Gould of Philadelphia, in his writings, which have been collected into five volumes of "Biographic Clinics." In these volumes Gould has studied the biographies of a number of the world's famous men and women in the effort to discover the underlying cause of their ill health. De Quincy, Carlyle, Darwin, Browning, George Eliot, Wagner, Spencer, Parkman, Whittier, Nietzsche—all furnish sufficient biographical data to enable Gould to discover that they suffered from uncorrected eye-strain. These volumes are well worth the perusal of any practitioner, and should be read by every ophthalmologist. Gould has been accused of hobby-riding and crankism by a number of prominent oculists, but he has defended his case so ably that it seems to me the profession of the United States, and the world, for that matter, must consider seriously what he has had to say.

It is from the inspiration derived from reading Gould's "Biographic Clinics" that I am impelled to write this paper, in order to pass

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on some of the benefits which I have derived therefrom.

In considering the physiology of vision it may be well to conceive of the eye as a prolongation of the optic tracts of the brain, associated with specially developed cells which are sensitive to light. This arrangement gives us the retina.

Intimately associated with the light perception apparatus are those nervous structures which control the internal and external muscular structures, by which the focus of the lens, the aperture of the pupil, and the position of the eyeball are regulated.

The intricate adjustment of the nervomuscular structures of the organ of vision required to produce the ordinary binocular vision is passingly wonderful. A bit of reflection will show us how dependent are man and all other forms of animal life on the function of vision. Our very existence, civilization, and hope of the future are bound up in this most delicate little apparatus.

The functioning of such a delicate organ must of necessity require the expenditure of a great amount of nervous energy, and it is not to be marvelled at that a disturbance of this finely adjusted nervous apparatus would make itself felt in a disturbance of the nervous equilibrium of the rest of the organism. That such is the case is well known. Serious ocular disease, such as glaucoma or iritis, produces a profound depression of the whole body. In like manner, slighter disturbances long continued will produce profound reflex results. Enthusiasts have claimed the ocular origin of nearly everything, from headache to diabetes mellitus. Careful observers have demonstrated, beyond a doubt, cases of migraine, neuralgia, epilepsy, chorea, neurasthenia, gastric and gastro-intestinal disease, and spinal curvature, in which the principal source of trouble was refractive error and which yielded to the correction of that error. If this be true, then it certainly behooves the general practitioner of medicine to take errors of refraction seriously into consideration in his daily work.

It may be safely stated that a perfectly normal eye does not exist. In a flexible structure like the cornea absolutely perfect sphericity, such as would be required for an absolutely normal optic organ, is actually impossible. One of the eminent fathers of ophthalmology protested that if his optician should send him an optical apparatus as poorly constructed optically as the human eye he would send the work back. However, for practical purposes, very slight variations from perfection may be ignored, but it is shown that slight errors of refraction, particularly in departures from spher-

icity of the cornea, are productive of much trouble. The eye is focused for a distance of twenty feet or more. To bring it to a focus for a point less than twenty feet requires the exercise of the function of accommodation. This is accomplished by increasing the strength of the lens, which is done by the contraction of the ciliary muscle. The power of accommodation varies according to age. At ten years, the near-point is about three inches; at thirty-five, about seven inches; at forty-five, about eleven inches, or ordinary reading distance. The power of accommodation gradually declines, until at about the age of seventy-five it disappears. For this reason convex lenses are required at about forty-five to do the work of the lens in accommodation.

An eye shorter than normal requires greater exercise of the ciliary muscle to give a focus. Such an eye is hyperopic and requires convex lenses. The opposite condition is found in myopia, where the eye is longer than normal, and requires concave lenses. In astigmatism there is an unequal curvature of the cornea. This requires the placing of a cylindrical lens at a certain definite axis so as to neutralize the inequality.

On these optical principles depend the science of refraction of the eye. The ciliary muscle must also be reckoned with. This muscle, having the power to change the focus of the eye, must be at rest, in order to obtain an accurate estimate of the refractive condition of the eye. Hence it is necessary, in nearly all cases, to obtain temporary paralysis of the ciliary muscle by a mydriatic, such as atropine, homatropine, or scopolamine. A diagnosis made without mydriasis is not reliable.

In hyperopia and astigmatism, because of defective focus, continual strain is put upon the nervomuscular apparatus of the eye, exaggerated, of course, when the extra work of accommodation is required. This continual disturbance of nervous equilibrium and expenditure of nervous energy brings about the various reflex disturbances, some of which have been referred to. This is capable of clinical demonstration, as is shown by the records of any oculist. It may be investigated experimentally. Snell made a graphic demonstration by placing cylindrical lenses in front of a properly focused camera. With an artificially produced astigmatism of one-half or three-fourths diopter, the camera produces reproductions of a printed paragraph which are so blurred that it makes one almost dizzy to look at them on the printed page. If any one doubts what this would do if placed in front of a practically normal eye, let him try it, and imagine what must be the effect on one of having the eye con-

stantly in such an abnormal state. Gould claims that 90 per cent of headaches are due to eye-strain, and the observations of most careful refractionists would seem to indicate that the percentage is not much too high. Our case-records are full of evidence to show that most frequent headaches are of ocular origin.

Gould has shown that the principal cause of migraine is ocular, and may be relieved by the correction of astigmatism. In a recent issue of the *Journal of the A. M. A.*, Reik indorses Gould's statements as to eye-strain as an etiologic factor in epilepsy, and cites several cases in point. As previously quoted, Musser recognizes eye-strain as a factor in the cause of stomach trouble, and suggests the tendency of continued functional disorder to develop into organic disease. Gould has also shown how scoliosis may be caused in school children by astigmatism at such an axis that tilting of the head is necessary in order to obtain clear vision.

With such evidence before us, substantiated by such men as Gould, Reik, Oliver, Standish, Snell, and many other eminent ophthalmologists, as well as many eminent internists, such as Musser, it is imperative that we give this matter of refraction serious consideration.

To begin with: fitting glasses is not a simple thing. If, as shown, errors of refraction can cause, and do cause, serious ocular and extra-ocular disease, and if similar conditions can be produced by lenses placed before the eye, it is a matter of the greatest importance that work of this kind be done only by those competent to do it. A lens may mean weal or woe to the one who wears it. It ought to require no argument to demonstrate the absolute futility for any person not an educated physician to attempt such work. The optician, the eye-sight specialist, the optometrist—whatever he may be pleased to call himself—is impossible to scientific medicine. As well let the counter-prescribing druggist fill our patients with *Peruna* and *Swamp Root* as to let the jeweler or any other incompetent person put glasses on them.

This work must be done by physicians. It requires special study and training. It takes time and lots of patience to do it properly. It does not pay as well as operative work, and Gould contends that it has been neglected by some of the masters in ophthalmic surgery on this account. A few general practitioners have equipped themselves for doing this work, but most of them have not the time to devote to it, even if they have equipped themselves to do it. However, every practitioner of medicine should be sufficiently familiar with errors of

refraction to recognize, or, at least, suspect, them in his daily work.

No examination is complete without vision-tests. There should be a test-type card in every physician's office. Seat the patient fifteen or twenty feet from the card. With one eye covered, have the patient read the letters on the card. If vision is normal the line marked twenty should be read at twenty feet; the one marked fifteen at fifteen feet, and so on. By using the distance in feet for the numerator we can, by expressing the number of the line read as the denominator, obtain a fraction which will indicate the acuity of vision; for example, line 40 read at 20 feet indicates 20-40 vision.

A vision of 20-20 does not necessarily indicate absence of refractive error. The ciliary muscle may be contracting sufficiently to overcome the faulty vision. In cases where other symptoms, such as headaches after reading or other close work, migraine, or congestion of the lids, seem to point to an error of refraction a mydriatic should be used. For this purpose 1 per cent atropine or 1-500 scopolamine may be instilled two or three times, and the patient examined the next day. This will put the ciliary muscle at rest, so that the amount of vision may be determined accurately. Scopolamine is preferable to atropine, as it works more quickly. After two instillations fifteen minutes apart the eye may be examined in an hour. If vision is below normal the patient should be refracted by some competent physician.

At this point many physicians fail to recognize the importance of their duty toward their patients to see that they fall into the hands of competent men. Frequently the physician suspects refractive error and tells the patient he needs glasses, after which the patient is very liable to consult the nearest spectacle-vendor and buy of him. It is just as reasonable to inform a patient that he needs medicine and allow him to go to the nearest drug-store and take whatever the druggist wants to sell him. Again, let me emphasize the importance of seeing that this work is done by a competent physician. Such a man will not care to be placed in the same class as a spectacle-vendor, and the referring a case to him "for glasses" tends to make the patient consider him as such. If the physician wishes to refer such a case, let him write a note to the specialist, and inform the patient he is to consult such a person about his eyes. In this way a great deal of trouble may be avoided. The patient does not fall into incompetent hands, and the specialist is not looked upon as a tradesman.

It is well to note the importance of systematic examination of the eyes of school-children. If this is done annually by the teachers many cases of visual troubles will be discovered long before they would be recognized otherwise, and the children will be saved the consequences of uncorrected refractive errors. It is also important that this work should be under the control of physicians, and the parents taught the need of consulting the physician and avoiding the optical quack. I believe it is a solemn duty of the profession, and of the oculists in particular, to enlighten the public on this matter. There should be some way devised whereby this can be done without opening the way for quackery.

To illustrate some of the points mentioned in the foregoing I have selected a few cases from my records.

CASE 1—Mrs. D.; aged 40; housewife; has attacks of sick headaches about every two weeks; is very nervous; sleeps poorly; has had all kinds of medical treatment, with practically no benefit. The last physician she consulted suspected eye-strain and referred her to me. Vision in each eye 20-30. Under scopolamine vision in each eye 20-50. With plus 75 cyl., ax. 105, left eye; plus 50 cyl., ax. 115, right eye; 20-20 each eye.

She has worn this correction with comfort for three years and has not had a recurrence of her sick-headache, except once or twice, when she got her frames bent, thus changing the axis of the cylinders.

CASE 2—Miss P.; aged 43; had sick-headaches for twenty-five years, coming at irregular intervals, but always associated with reading or sewing. Always troubled with indigestion; for ten years suffered from neurasthenia of a pronounced type; very-melancholic; at times talked of suicide; felt sure there was trouble with her eyes; had worn at one time minus .50 spheres, fitted by an optician; from these she received no benefit. Two years ago she consulted me, and received the following correction: Right eye, plus .50 cyl., ax. 165; left eye, plus .75 cyl., ax. 30.

She has since worn these glasses and has been free from headaches. Her general health has improved, so she hardly knows herself; is able to attend to her work and enjoys life; digestion is good, and she can eat anything. Think of twenty-five of the best years of a life blighted because of the failure to recognize and have corrected a small error of refraction!

CASE 3—Miss M.; aged 25; stenographer; subject to severe headaches; health otherwise good; had worn plus .50 spheres, each eye; was refracted later by a physician who gave her plus 1.00 spheres, each eye, with some im-

provement, but the headaches still persisted. Vision 20-20, each eye. Under scopolamine, vision 20-200 each eye. Accepted plus 4.50 sphere, each eye. Prescribed plus 3.50 sphere, each eye, which she has worn for two years with perfect comfort and with relief of headaches.

This case will illustrate the unreliability of examination without a mydriatic, there being three-and-a-half diopters of hyperopia, which were unrecognizable without the mydriatic.

CASE 4—Mrs. P.; had severe siege of neurasthenia, during which she made slow progress under ordinary methods of treatment, including rest cure, intensely severe headaches at frequent intervals, and all the other symptoms of an aggravated case of neurasthenia. After refraction under atropine she wore the following: Left eye, plus .50 cyl., ax. 105; right eye, plus .50 cyl., ax. 75.

After receiving this correction her condition improved rapidly. She is not entirely well, but is greatly improved in health, and she finds that if she leaves off her lenses she becomes dizzy and speedily develops a headache.

CASE 5—Millie K.; aged 8; general health, good; does not like to go to school; has styes frequently; has a choreiform movement of the eyelids, which worries her mother. She received the following correction: Right eye, plus .50 sph. (), plus .50 cyl., ax. 90; left eye, plus .50 sph. (), plus .75 cyl., ax. 90.

With these lenses the child recovered from the choreiform movements, became interested in her studies, and had a new attitude toward school.

CASE 6—Miss C.; aged 20; suffered severely from headaches and congested eyes while in school; consulted an "optician of twenty-five years' experience," who gave her some weak concave lenses. Vision in each eye under mydriatic 20-50, 20-20 with plus 1.25 cyl., ax. 90, each eye. Examination of fundus shows large atrophic patch, the result of choroiditis,—a fine comment on the skill of the "optician of twenty-five years' experience!" Does it not also speak in no uncertain tones to the medical profession of their duty to their patients and to the public in general as regards this matter of refraction?

These experiences are common to all oculists. We see cases of nephritis with pronounced albuminuric retinitis, which have come to us after having tried to get relief from a pair of spectacles fitted by an optician, or an eye-sight specialist, or an optometrist!

One of the penalties of progress in civilization is defective vision. As long as medical men have patients to treat there will be an increasing number of cases with errors of re-

fraction, manifesting themselves in various forms of extra-ocular disease. Is it not, then, our solemn duty to take this fact into consideration in our treatment, to see to it that they receive proper attention from competent men, and to make it our business to let the public know the truth in order to protect them from the impositions of the incompetent?

DISCUSSION

DR. R. E. WOODWORTH, Sioux Falls.—We always expect something good from Dr. Parsons, and he has certainly maintained his reputation on this occasion.

He is right regarding the fitting of glasses by the traveling spectacle-vendor, and his words of warning should be heeded by the general practitioner. Scarcely a week passes that we do not see patients fitted with a minus sphere, who have a low, moderate, or even high degree of hyperopia. This of course is only adding fuel to the flame.

The doctor speaks of scopolamine, and I infer from his paper that he uses this mydriatic in his practice. For some time I have been using scopolamine, and I find it has some advantages over other mydriatics, especially as regards time, but recently I had a rather unpleasant experience with this drug. I instilled one drop of a 2 per cent solution into each eye of a middle-aged woman, who was apparently in perfect health. Following the flushing of the face, which is not uncommon, there were dizziness and extreme pallor, with decided nausea. There was a weak, thready pulse, which persisted for at least two hours, although stimulants were given. I should like to know if others have had a like experience.

Again, I want to remind the general practitioner, and, through him, the public at large, that the traveling optician bears the same relation to ophthalmology that the traveling patent-medicine vendor does to the licensed practitioner.

DR. R. D. ALWAY, Aberdeen.—I wish to commend the doctor on the able and practical way he has brought this subject before the Association; in fact, there seems to be nothing left to discuss.

I have never used scopolamine in my practice, and I do not believe it is as safe as other mydriatics which give the same results. My practice is to use atropine in children, and some atropine in adults unless there are special reasons in the latter for a stronger mydriatic.

As Dr. Woodworth has said, some of the general practitioners still refer their refraction cases to the optician, where a certain percentage are correctly fitted, but the majority are not and ultimately seek the services of the oculist with their eyes in a worse condition and sometimes permanently injured.

In my part of the state I think we have few men who do this. We have been patient and have educated them along this line, and it has borne fruit.

DR. WILLIAM R. MURRAY, Minneapolis.—There are one or two points I might emphasize in Dr. Parsons' paper. One is that the prescribing of lenses requires the most accurate and painstaking work on the part of the oculist, as well as a broad experience in this part of a specialist's work. The determination of the total error of refraction is a simple problem in mathematical optics, but when the total error is determined, the prescribing of the lenses is not a mathematical problem. We must determine whether or not there is any pathological condition present; we must consider the age, occupation, temperament, se-

verity of symptoms, surroundings of the patient, etc., and then prescribe accordingly. All these factors must be considered, and there is no rule for the prescribing of lenses.

Another point I might emphasize is that it is the low refractive errors that give rise to the most complex conditions, and are most likely to be the cause of remote reflex disturbances, and it is these low errors that require the most careful and accurate work.

DR. PARSONS (Essayist).—I am very glad of having had the opportunity of bringing this paper before the Association, and I hope that the suggestion made, that the men in general work give the matter of refraction closer attention, may be accepted in the spirit in which it is intended. The idea is not to have all general practitioners become refractionists, but to have them pay more attention to the importance of refraction.

The use of scopolamine and toxic symptoms following it have been mentioned. I have had one or two cases of toxic symptoms, but I think the fault was largely mine because I failed to instruct the patient to close the tear-ducts after the instillations by pressing with the fingers.

Concerning the claims of Gould: we must admit that Gould is an enthusiast, but, as Dr. Murray has said, he has made some valuable contributions to medicine. A great deal of good work has been done in the field of refraction at least; so I am inclined to think that Gould deserves a great deal of credit for what he has done.

Many cases spoken of as low-grade errors of refraction may escape notice unless very close attention is paid to the examination. These slight errors cause a great deal of trouble by reason of the fact that they are so small they are overlooked and go on causing disturbance for a long period. A long-continued small trouble may cause a big trouble in the end. We are inclined to scoff at these small things because they seem to be intangible. I am usually regarded by my friends as somewhat of a conservative man about some things at least, but I do not hesitate to say that it is possible to have such a grave condition as gastric ulcer traceable to eye-strain.

If you can have an error of refraction which will produce reflexly a nervous disturbance of the stomach, with symptoms of nausea, faulty digestion, etc., it is entirely possible for such a functional disturbance to pave the way for a more serious organic lesion. And what may be true here may be true of the other organs which are affected by the faulty distribution of nervous energy which may come from eye-strain.

THE NEED OF EARLIER DIAGNOSIS

Dr. J. N. Hall, of Denver, emphasizes the fact that early diagnosis in many diseases is of quite as much importance as accurate diagnosis. By waiting for a complete picture of the condition existing we may sacrifice the chance of the patient for his life. We must be more prepared to assume the responsibility of tentative diagnosis. The author cites as examples early tuberculosis, diphtheria of the larynx, empyema, and many abdominal conditions. Among these are gallstones, gastric ulcer, and appendicitis, in which exploration will end in cure.—Medical Record, August 3, 1907.

MODERN MASTOID OPERATION*

By D. W. RUDGERS, M. D.

YANKTON, SOUTH DAKOTA

The advancement in mastoid surgery during the last quarter of a century has so well held its own in the great strides of surgical progress in all branches, and the comparison between the operation on the mastoid cells to-day and what it has been in the past, seem to entitle it to the term of *modern*.

In this brief paper, I purposely omit history and the cardinal points of diagnosis, and will aim simply to call attention to some complications, landmarks, and points in the technic of operating, which in my experience have most impressed me.

You are all familiar with the anatomy and with the conditions which lead up to an operative stage. You are also familiar with the different methods of operating in the past. All forms have been adopted; some very crude, others very bold, owing to the knowledge or nerve of the one who attempted the operation.

The *modus operandi* and technic of the operation have progressed and have been improved upon from time to time, the same as in other operative fields, until to-day the two methods most recommended and practiced are called the complete and the radical operation, which suggests, first, not too great delay in operating after you are satisfied it is necessary; secondly, thoroughness in your work.

It is not enough, as has been proven, to open the soft tissues and discover a necrosed hole, or make a small opening into the cells and depend upon nature to help you out. The cells must be all uncovered and cleaned out in such a manner that they will fill in and become obliterated and free from further danger.

There are many things which precede the operative stage and make an operation necessary. The principal and most frequent is middle-ear trouble. It does not, however, always infect the mastoid cells, even when suppuration takes place, for there are other avenues of escape for pus in the tympanic cavity, the Eustachian tube, rupture of the drum membrane, discharging into the external auditory canal, burrowing under the periosteum of the external auditory canal, following the sternocleidomastoid muscle, and pointing on the side of the neck; or it may, and does frequently, force itself into the mastoid cells and seek an outlet that way. This condition, very often, as you

all know, follows other diseases, such as scarlet fever, la grippe, etc. But the mastoid cells may become inflamed and go on to a stage of suppuration without being infected from the tympanic cavity. Whatever may be the cause, when it is apparent that the cells are filled with pus or have the conditions present which indicate such an alternative, it is a safe and wise thing to open them up and thoroughly clean them out, for nothing is to be gained by delay and much may be lost. Of course, this is provided the conditions warrant. An acute suppuration, a chronic suppuration, or a necrosed and granular condition, etc., not only warrant but demand operative measures. Delay means more loss of tissue and added danger to life.

When you have decided to operate, or that operative measures are necessary, which decision, I may say, is not arrived at most accurately by the one who has read the most symptoms as narrated in the books, but by the one who is most familiar with the anatomical and pathological conditions to be considered, the most familiar with the appearance of the mastoid region in all the varied stages which lead up to the operation.

The two methods most used differ principally in that the complete operation means to clean out the whole chain of cells, curet, polish, and irrigate until there is nothing left to necrose and slough away. Dress and use drainage from the external wound.

The radical operation establishes drainage into the external auditory canal by making a hole through the cartilage of the auricle on the back side, chiseling a groove through the posterior border of the bony canal, through which drainage is established, thus allowing the external wound to be closed up. A secondary or grafting operation is frequently done to correct the unsightly appearance of the wound.

The radical operation is decidedly an English operation. While spending six weeks in London a year and a half ago, I saw no other performed, and I saw many. While in New York on my return, I saw only the complete operation—simply a choice of point of drainage and the amount of scar.

I have operated both ways, and favor the complete. The scar is not so great as in the old methods, i. e., if the operation is done properly, for, if the cells are all cleaned out, the margins smoothed down, and the soft parts

*Read before the South Dakota State Medical Association, May 29 and 30, 1907.

properly adjusted, union takes place readily, except at the drainage-point. As the cells granulate and fill in, a slight secondary operation at the point of drainage leaves the scar in an unobjectionable condition.

What I wish to bring out in this paper is a discussion of the importance of an early and accurate diagnosis of these troubles in an early stage, and the importance of operating whenever necessity demands.

I will say, as is argued in appendix operations, it is better to operate on some that do not need it than to overlook others that do, and I believe I can safely say there are many deaf to-day who might hear if an operation had been done. Operate to save hearing, as well as life. Last fall I operated on a case that had been of nearly two years' standing, intermittent and alternating attacks, with loss of hearing, tinnitus, and the usual symptoms indicating mastoid and middle-ear trouble, but they would subside quickly under treatment. I finally cleared out the cells on the worse side. There was no pus, but the cells showed the results of the inflammatory action. Recovery was rapid, with subsidence of the trouble on the other side. The hearing was restored, as well as the general health.

Another case recently operated upon, acute middle-ear trouble after la grippe, terminated rapidly with rupture of drum membrane, with profuse discharge of pus in auditory canal, but the pain, which was referred to the tip of the mastoid, did not subside.

I opened the cells, going up first, and found no pus. I then went down until the cells in the tip were opened, which were full of pus. The pain all subsided, and the patient made a good recovery with almost perfect hearing.

Therefore, I repeat, operating will save hearing often, and life frequently, and it does not involve a risk for the patient, if pus is not found.

I believe it is as legitimate to clean out a chain of healthy mastoid cells as it is to remove a healthy appendix.

DISCUSSION

DR. J. G. PARSONS, Brookings.—I think it is well to have these matters discussed and emphasized. The importance of being on the safe side in operating upon these cases is something we cannot consider too seriously. The comparison of these cases to cases of appendicitis is frequently made use of and makes a good illustration. It is found that the result we obtain as regards hearing bears a relation to the time of operation. Cases operated upon during the first week show a percentage of recovery with normal hearing that is quite large, and during the second week less, and so on. I reported some examples of this kind to the Association some time ago.

Dr. Hill speaks of the blood-clot dressing. I have

recently had some experience with this operation which has been very satisfactory to me. The principal objection made to this operation is that the blood clot is liable to break down. The reply is made and substantiated by those who have made use of this method that, having cleaned out the cells and allowed the cavity to fill up with blood, you will have an aseptic wound under the antiseptic influence of the blood for at least three days, during which time there is a rapid development of granulation tissue so desirable in these cases. The start thus given to healing materially cuts short the time taken, even if it does become necessary to pack.

I recently operated upon a case of acute mastoiditis following grip. I was assisted by Dr. Scanlan, who is here. After making the complete operation, removing all cells and taking off the tip, I closed the wound with a silk drain and let the wound fill up with blood. On the third day the drain was removed, and I found nothing but a slight serous discharge. On the fifth day the wound was completely healed. I have here a photograph which I took on the twentieth day. The appearance of the scar is practically the same as it was on the fifth day after the operation.

Now, let us contrast this with the usual method of packing. If we can get the wound healed in twenty-one days by that method we are doing well. There is a decided argument in favor of the blood-clot method. Still, I will admit that most aurists are not in favor of it. Of course it is not desirable in all cases, but I believe that in certain select cases the blood clot will serve the purpose, saving the trouble of frequent dressing and the pain attendant upon it, with a better cosmetic result and healing in far less time than by the other method.

DR. L. G. HILL, Watertown.—I wish to compliment the doctor on his able paper: it is very interesting and instructive to us all. There might be a difference of opinion regarding what constitutes the modern mastoid operation, as each operator has his favorite method of operating.

There has been much discussion of late upon the so-called blood-clot method. Personally, I have had no experience with this form of treating a mastoid operation, but the objections made to the method are that the blood clot too often breaks down or becomes infected, and has to be treated accordingly, thus delaying and complicating the recovery instead of procuring the desired result. My usual method has been to pack the wound and allow it to fill by granulation, and the results have always been quite satisfactory. Just lately many of the cases referred to me for operation have recovered under proper treatment without any radical operation.

Dr. Hotz of Chicago says that the mastoid operation is done too frequently and points out many cases in his practice which have been cured by careful treatment. It is very essential, however, that the physician in charge should detect the danger and have the case operated upon as soon as necessary.

In operating for mastoiditis it is of great importance that the surgeon should be very thorough and exceedingly careful with his work. This is more especially true of this operation than of many others.

There are four things to be borne in mind in all cases of mastoid surgery: First, the protection of the patient from a deeper infection; second, the cessation of the discharge; third, the effect upon the hearing; and, fourth, the possibility of danger to the facial nerve.

Satisfactory results are obtained in the first by very careful and thorough removal of all infected areas. The patient will sometimes return after be-

ing dismissed as well, complaining of a discharge, and upon examination we find the canal blocked with exfoliated epithelial tissue which covers an accumulation of pus. This superfluous tissue being removed and the cavity cleansed, for awhile the discharge entirely disappears. The effect upon the hearing is usually very slight. Sometimes the ossicles are pressed against the oval window, causing marked deafness. Care should be exercised to avoid this complication. It is not uncommon to have some slight injury or pressure upon the facial nerve, causing a temporary paralysis, but, fortunately, this has always cleared up entirely in a very short time in my experience. Many operators use skin-grafting to facilitate healing of the wound and hastening recovery, and this method is practised quite extensively at present.

DR. WILLIAM R. MURRAY, Minneapolis.—There are only one or two points I shall mention in connection with this subject. In regard to indications for opening the mastoid: it is difficult to say in every case at just what time we should operate. I believe it is wise to operate in all cases as soon as we have decided that there is pus in the mastoid. I think it is advisable to operate because I think that by so doing we are giving the patient the best chances for recovery. There is practically no danger in the operation. The danger is in delaying operation. As an illustration of this I might mention a case that I operated upon six weeks ago. The patient, an adult, had a slight temperature, complained of but little pain; there was some tenderness and some redness over the mastoid, without edema. I operated at the end of forty-eight hours, and found the entire mastoid most extensively involved. The mastoid cortex was necrotic and but a thin shell of bone. The necrotic process extended into the zygomatic cells, internally to the internal ear, and backwards a distance of one-half inch posterior to the lateral sinus. This case shows how extensive and rapid the involvement of the mastoid may be without showing any other signs than we would expect to find during the first twenty-four or forty-eight hours of an average case of mastoiditis. The case made a rapid recovery, but if operation had been delayed another twenty-four

hours serious complications might have developed.

Another case illustrating the other side of this question was that of a young child presenting marked tenderness over the mastoid, intense pain, some edema, and a high temperature; these symptoms continuing several days after a free paracentesis of the membrana tympani. I operated and found a hard, somewhat sclerotic mastoid without any pus present in the cells or antrum.

I mention these cases to show that the signs and symptoms present are not indicative of the amount of involvement present, and that a conservative course in these cases is to operate early.

In regard to the blood-clot method of healing in mastoid wounds, I must say that it has never appealed to me as a practical and rational procedure. There are a few men in this country who have advocated it, but the great majority have opposed it.

This subject of mastoid surgery is a very interesting one, and has been well covered in the paper and discussions.

DR. L. D. ALWAY, Aberdeen.—I am sorry I was unable to hear the doctor's paper, but I shall read it carefully after it is in print.

Dr. Murray, in his discussion, referred to a case where he said you could not always tell by the symptoms the extent of the infection or the amount of necrosis. Some time ago I had a case where I could hardly find enough symptoms to warrant operation. There was no tenderness, swelling, falling of the posterior wall, or discharge from the middle ear, but a very high temperature. This, with a history of measles and scarlet fever six weeks previous, and the absence of any other cause for the patient's condition, induced me to operate. There was extensive necrosis, which necessitated uncovering the lateral sinus and exposing the dura.

I have a case at the present time which promises to be material for a clinic for an indefinite time. This patient has had two acute and two radical operations with still no sign of getting well. There is no evidence of tuberculosis or history of lues or reaction to strenuous specific treatment. The patient is otherwise in good health, and I have not given up hopes of a cure, but I advise another operation.

VIBRATORY TREATMENT OF DISEASE*

By O. F. WAY, M. D.

CLAREMONT, MINN.

The present marks an important era in the progress of therapeutic methods. There is a strong feeling, not only among the mass of the people but also among the medical profession, that drugs do not play so important a part in the cure of disease as has been believed and, indeed, that they are in many conditions, of little value. Many of our best men are now giving their attention to the study of other methods for the cure of disease than simply the giving of drugs.

One of these methods now receiving attention is what is known as vibration. Though com-

paratively a new method it is meeting with great success, and in many conditions is producing results hardly hoped for or impossible from the administration of drugs; and there are many diseases and conditions now treated by this method with much better results than by the use of drugs, and I may say, in passing, it is the greatest competitor surgery has. There are also many conditions where this method in addition to the use of drugs produces much better results than would be obtained from the drug alone.

This is not claimed as a cure-all treatment; and in my own use of it I nearly always combine it with other remedies, but there is a scientific basis

*Read before the Southern Minnesota Medical Association, August 1, 1907.

for its use in the treatment of many diseases. The great principle on which this method is based is "to equalize circulation," not only the circulation of the blood, but that of the lymphatics. By properly using vibration we may either increase or retard circulation with a certainty unknown to drugs.

There are many different instruments now manufactured for giving this treatment, each manufacturer claiming some superior points for his particular machine; but it is not the purpose of this paper to enter into the discussion of these. I will therefore simply say the instrument should be so constructed that the operator may give a long or short stroke, or a heavy or light stroke at will, as much depends in the effect obtained upon the kind and quality of the stroke used. General vibration of the whole body is seldom, if ever, desirable or beneficial.

In using vibration, as in treating by the system called osteopathy, the spinal column is usually the starting-point, on the general theory that all the functions and organs of the body are controlled by certain nerves or nerve-centers located principally in the spinal cord, and that in case of disease if these centers are reached and treated they will so stimulate the affected organ to natural action that health will be restored to the part. Therefore, in nearly every case treated the first thing to do is to vibrate the nerve-center which supplies the organ or part diseased. In thus treating the nerve we must keep in mind whether we wish to stimulate or retard the action, and govern our treatment accordingly.

Blood is the healing medium in all diseases, and most diseases are caused by a poor circulation of some kind. It may be by an increased circulation or a diminished circulation in the part affected, but a restoration to normal circulation will greatly aid in the cure of nearly all diseases. For this reason, in the treatment of nearly every case by drugs our prescription will contain either a stimulant or a sedative to the flow of blood. A much better equalizer, however, in many cases is the proper use of the vibrator as this acts mechanically upon the part to which it is applied, causing action in the tissues. This action causes heat, and heat causes oxidation and metabolism, and in this way a healthy circulation is established.

The indications of the case must determine whether the application should be central or local, also whether stimulative or sedative. To produce the central effects the application is made directly to the center in the cord directly controlling the part we wish influenced. To produce local effects the application is made directly to the part we wish to affect. Without going deeper into the detail of the method of applying the vi-

bration I wish to call your attention to a few of the conditions it is especially applicable to.

As stated above, it is a great equalizer of circulation, therefore, if we find a case in which the tissues are being starved for want of better circulation we can so govern this treatment to act on the vasodilators which control the circulation of that region and thus promote a free blood-supply. On the other hand, if there is already an increased circulation we apply treatment to the vasoconstrictors, thereby reducing the circulation to that particular part, instead of through the whole system, as must be done if we use drugs. We must, therefore, post ourselves well as to the method needed to produce the particular action desired, and we shall find little difficulty in regulating the blood supply in any part we wish.

Another important system readily acted upon by vibration is the lymphatics and their ganglia, and this is of no less importance than that of the arterial and venous. By the treatment of disease by drugs this system is usually given but little attention, while in all mechanical treatments it is considered very important.

In cases of anemia and poor nutrition of all kinds we usually lay the blame to poor blood, and prescribe some form of iron, which we hope by some process to cause to enter the blood and build it up so that it will give nourishment to the system and the health be regained.

Now, this anemia is more apt to be caused by the poor working of the lymphatic vessels and glands, they having become clogged up, as it were, like a sewer, thus being unable to carry the waste material to the general circulation where it will be taken out of the system by the proper excretory organs and the system thus kept in a clean and properly working condition. If left in the system this material not only acts as a hindrance to the proper nutrition of the body, but by absorption it produces what is known as auto-intoxication and the long list of troubles directly caused thereby.

There seems to be no class of drugs directly capable of promoting the action of these glands and vessels, but here the vibrator is exactly what we need, as through its action the glands are stimulated to take up their work, and the vessels to carry the material into the general circulation. No one will have great success in the use of vibration who does not take pains to promote the good working of this system.

It is doubtless on account of the poor working of this system that metastasis so frequently occurs, and we have such poor success in the removal of cancers, tubercular glands, etc. Then, if we can better the working of this system after this class of operations we shall be much less likely to have them recur at other points.

Diseases of microbic origin have for some time claimed great attention from the physician. These microbes doubtless do no harm so long as they are free in the circulation, but it is when the circulation, either of the blood or lymphatics, becomes stagnant and these microbes form a dam, as it were, that they can do injury to the system. Let us then see to it that we keep the system of circulation free and open, and we shall have but little to fear from the microbe.

Respiration is a process much neglected by most people, very few performing this function properly. By style of dress and also by force of habit we accustom ourselves to shallow and imperfect breathing, thus preventing thorough oxidation of the blood and consequently anemia and malnutrition with their long list of ailments that follow. Yet, by means of drugs we are scarcely able to stimulate the respiratory act sufficiently to materially affect the amount of air taken into the lungs or expelled therefrom. But right here the vibrator does excellent service, and by its proper use we are enabled to so stimulate the respiratory centers to healthy action that respiration will become much deeper and more effective in thoroughly aerating the blood.

In troubles of the digestive organs about all we can do with drugs is to give an artificial digestive, which, it is hoped, will digest the food and save the digestive organs this work, but, like the constant loafer who never gets ready to work, or like the broken arm which never becomes ready for use so long as it is kept in the sling or the muscle in any part of the body which always becomes wasted and of little use by idleness, so, too, it is with the digestive organs; so long as we do their work by artificial means there is little tendency for them to become healthy and in good working condition. But by the use of the vibrator we at once stimulate the nerve directly governing the deficient organ, and we promote free circulation through the organs, and a healthy action is established, and all is well throughout the whole alimentary tract. Thus we might keep on with the different organs of secretion and excretion, but my paper is already too long. I will therefore omit any special remarks regarding these processes, simply saying the treatment is equally as successful in these as in those already mentioned.

It is thus seen that this treatment is applicable to nearly every disease the system is subject to, and while I would in no wise recommend the giving up of drugs in the treatment of many diseased conditions, I certainly would recommend any physician to acquaint himself with this method, and I am sure he will find very many cases in which, with proper vibration, much better results will be obtained than by the use of drugs alone. However, this system of treatment means

work for the physician. A vibrator, like a static machine or any other mechanical apparatus, will not work without someone to operate it, and unless a physician is willing to take hold somewhat like a manual laborer, learn what is to be done and how to do it, he had better spend his time writing prescriptions for drugs, let the druggist prepare them, the patients devour them, and then trust to providence that by some means or other nature will cure; and if, by chance, nature fails to thus help him out he still may send the case to a surgeon. His efforts proving unsuccessful, it can still be said: "It was the providence of God. All was done that could be done, but it was of no use."

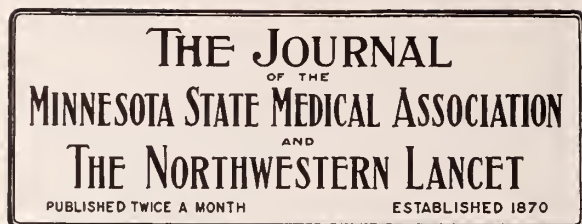
DISCUSSION

DR. CHARLES HILL, Pine Island.—I am a great believer in keeping the secretory and excretory organs of the body open, and I know of no vibratory apparatus for this purpose that equals the compound cathartic pill. Give a patient a good dose at bedtime, and he will get all the vibration he requires and all the functions of the body will respond in fine shape. In these days of automobiles and lightning-express trains, people get about all the vibration they need without the use of patent devices for the separate organs of the body.

DR. WAY (Essayist).—I quite agree with Dr. Hill. If people would all use the means at their disposal, to keep their secretions in good order, they would have very little use for doctors; but, as a matter of fact, they don't. Therefore the doctor, with whatever devices he may choose, accomplishes the purpose, and it is the intent of this paper to bring to notice an appliance which in the hands of the writer has proven satisfactory.

THE MANIFESTATIONS OF PARANOIA

Albert Warren Ferris, of New York, says that paranoia seems not to be well understood by many specialists in nervous diseases, the difficulty lying in an error in the limitations of the field. The most decisive feature of the disease is the systematization of the delusions. The delusion of persecution has been so interesting as to draw the mind away from the essential facts. A fixed idea becomes the central fact. Decisive characteristics are unchangeableness of the fundamental fixed idea, firm belief of the patient in his delusions, apparent logic of the delusional system, suddenness and intensity of the reactions, frequency of false interpretations, and preservation of an unimpaired intellect for years. Hallucinations are present, especially of hearing. Young persons, by eccentricity and excitability, show evidences of mental unbalance which may be controlled, although not cured, by careful superintendence and hygienic treatment.—*Medical Record*, August 17, 1907.



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MINNESOTA STATE MEDICAL MEETING

The meeting of the Minnesota State Medical Society at Duluth, August 13th to 16th, was an unqualified success. The attendance was nearly as great as when the meetings are held in either of the Twin Cities, and greater than at any previous meeting in Duluth. Many factors contributed to its success: the season of the year, when the Duluth climate is at its best; the fact that the physicians had enjoyed a full summer of freedom from medical gatherings; the activity of the committee in Duluth who had charge of the Association, and the courtesy of the Commercial Club in providing a suitable hall for the general meetings and a special hall for the House of Delegates. The social side was fully cared for, as is always the case when the St. Louis County Medical Society entertains the state organization. There were steamboat rides, automobile tours, and carriage drives around Duluth's wonderful boulevard, and special entertainments for the visiting ladies. The opening of the club-houses and the freedom of the city added largely to the entertainment furnished by the physicians.

Last, and most important, was the program, prepared with great care, by Dr. H. J. O'Brien,

of St. Paul, Dr. S. H. Boyer, of Duluth, President Tomlinson and Secretary McDavitt.

Some objection was made to the program on the ground that it was made up almost entirely of men from St. Paul, Minneapolis, and Duluth. The men from the country felt they had been overlooked, or, at least, that they were overwhelmed by their brethren from the three cities.

The criticism was, in a measure, timely, but the program was not purposely so prepared. A program committee does not occupy an enviable position, and experience has shown that it is often very difficult to get the requisite number of papers promised and prepared in time to insure success at a given meeting. This year the committee began their labors early and secured the papers in ample time, hence the criticism was not taken seriously, nor was there any unpleasantness. It would be better if the program represented various districts throughout the state, but it is not easy to get papers from the country men. Many are too modest and hesitate to prepare an article for a large meeting, while many are indifferent and not willing to devote the time to the preparation of a paper that might be suitable for any meeting.

The writer has attended many of the county and district society meetings, and he knows that a large number of men through the state can write and talk well, yet they are slow to show themselves at the state meetings. As all of the medical societies are for educational, as well as for social, advancement, it is the duty of every man to be ready to contribute his share, however small it may seem to him.

The program committee for next year is to be pitied. A resolution introduced in the House of Delegates limited the scientific section to two days, and the number of papers to twenty. The committee will be obliged to select its program with great care, and no one should feel a personal affront if his paper is not accepted. The overflow of papers can be read before the smaller societies, and appear in the state journal and thus be brought to the attention of the largest number of readers.

It was very difficult at times to hear the writers, even in the excellent hall provided by the Commercial Club. For some reason physicians are not gifted with voices sufficiently loud to carry more than a few feet, and in taking down the discussion the official stenographer is often unable to get the important points in the discussion. Mr. Long has been identified with the Association for many years, and is competent in every way to report a medical meeting, yet he is often obliged to ask for a repetition of what was said for the single reason that the speaker fails to give his name and address, and his voice is not strong enough to be heard;

therefore if the discussions are not fully recorded the fault lies with the speakers and not the stenographer.

The next meeting of the Association will be held in St. Paul some time in October, 1908, the date to be decided by the Council. It was thought best to try a month in the fall rather than a month in which many are absent on vacation.

THE AMERICAN PHYSICIAN ABROAD

Every year a large number of physicians go abroad for work, rest, or recreation. The number is constantly increasing, much to the profit of the country visited by the medical tourist. The average physician spends his money freely, whether he gets full value for it or not. Undoubtedly, many physicians profit by their visit to the foreign countries, as the clinics are large and the instruction is valuable.

In an early issue of *THE JOURNAL-LANCET*, either this month or next, an article on foreign clinics will appear that will be helpful to those who contemplate a trip abroad for study.

Among the local men who spent a few weeks in the British isles this summer were Drs. Wm. J. Mayo and Christopher Graham, of Rochester. These men had entertained most of the foreign celebrities at Rochester, and it is not strange that some return should be meted out to the Rochesterites when they landed in England. They were met at the steamer, and at the trains when they arrived in the large cities. Clinics, dinner parties, and automobile tours were arranged by the leading medical and surgical men in Liverpool, Birmingham, Edinboro, Glasgow, and London. The Edinboro Medical Society held a special meeting and gave a banquet to their American guests. Everything was done to make their visit a memorable one, and although the clinical showing was strong, they were given an opportunity to see the country and many of its objects and points of interest.

It is generally supposed that the foreign physician and surgeon, particularly of the British Kingdom, is not inclined to pay much attention to the American doctor unless he be a celebrity. This is not the case, however, for many Minnesota men were cordially received and generously treated. Of course, Dr. Mayo was counted among the well-known surgeons, but Dr. Graham and Dr. Arthur Gillette, of St. Paul, received a most gracious welcome and both came back with the kindest feelings for their entertainers.

Germany and Austria are the countries to which most students gravitate, but of late there has been a turning of the tide toward the English-speaking countries.

It is a pleasant experience to see and hear men

of whom one has read, and it is surprising to the average American to find his English cousin is able to speak one or more foreign languages. Most Englishmen speak French and many speak German equally well. It is an education to hear a Scotchman speak two or three tongues, and it suggests to the American the necessity of learning more than his own language before he goes abroad to study.

IN-BREEDING

One cannot but be impressed in reading "Hereditary in Royalty," by Frederick Adams Woods, M. D., with the striking facts brought out by the author in regard to consanguineous marriages. These are, as we all know, very common in royal families, and it has been the custom to attribute to consanguinity all or many of the mental and physical disabilities under which sovereigns as a class are supposed to labor. The facts and figures adduced by Dr. Woods do not support this view, nor indeed do they even show that royalty is as degenerate and effete as we have been led to believe. In the Saxe-Coburg family, for instance, from which both Queen Victoria and her husband, the Prince Consort, were descended, and which presents numerous other examples of marriages between cousins, even cousins doubly related, the family has maintained a high standard, not only of intelligence, but of morals, and has shown decided literary tendencies. In the Hapsburg and Bourbon lines, on the other hand, where the families have been closely connected by consanguineous intermarriage and where even the union of uncle and niece has been tolerated, a tendency to insanity, derived from Joanna, the Mad, has again and again showed itself in her descendants.

Judging from these statistics it would appear that no ill effects result from the marriage of even closely related persons, provided the stock on both sides is good, but, on the contrary, when there is in the parents some vicious tendency derived from a common ancestor, the chances are doubled for the appearance of the same or an allied evil trait in the children.

The question as to the propriety of marriage between cousins and other relatives is one which the physician is occasionally called on to decide, or, at all events, to pass an opinion on, and as comparatively little has been written on the subject and but few reliable statistics are available, he is left to base his decision either on tradition or on some pre-conceived theory of his own. Any and all data, there-

fore, from good sources, and the result of careful study, are of value.

The following are the conclusions in regard to heredity reached by Dr. Wood as the result of his study:

"Quality possessed by the entire ancestry is almost sure to appear. Quality possessed by one parent and half the ancestry is likely to appear, with almost equal force, in one out of every two descendants. Quality possessed by one parent only and not present in the ancestry, has one chance in about four for its appearance in the progeny. Quality not possessed by either parent, but present in all the grandparents and most of the remaining ancestry, would also have about one chance in two for its appearance in one of the children. If only one of the grandparents possessed the quality in question, then the chances of its appearance in any one of the grandchildren of this ancestor would be only about one chance in sixteen."

Another important principle stated by the author is as follows: "Mental and moral qualities do not freely blend, so that a child is apt to 'take after' rather completely some one of his ancestors, more often the near one, less and less often the remote one."

RECIPROCAL MEDICAL REGISTRATION

A number of times requests have come to this office for information concerning the basis upon which reciprocal certificates to practice medicine in Minnesota are granted, and we think the question one of general interest, especially in view of the fact that certain reforms of vital importance to the profession depend upon the work of our state boards of medical examiners.

It is, of course, apparent that a board of medical examiners would be very unwise to let down the reciprocal bars while keeping high, or even building higher, the examination bars. It is well known that the Minnesota board has been noted for its thorough, even stiff, examinations, and the record of failures before it has cast terror into many a medical college faculty, and some big colleges at that. From within the state the question comes, Has the Minnesota board stultified itself by the acceptance of a lower standard under reciprocity than it long maintained under examination? We are confident it has not, and the

conditions under which reciprocal certificates are granted will show this to be the case.

Two qualifications have been adopted as the basis of issuing certificates, which, together with the states from which certificates are accepted, are given herewith:

QUALIFICATION NO. I

A certificate of registration showing that an examination has been made by the proper board of any state, on which an average grade of not less than 75 per cent was awarded, the holder thereof having been, at the time of said examination, the legal possessor of a diploma from a medical college in good standing in the state where reciprocal registration is sought, may be accepted, in lieu of examination, as evidence of qualification, provided, that in case the scope of the said examination was less than that prescribed by the state in which registration is sought, the applicant may be required to submit to a supplemental examination, by the board thereof, in such subjects as have not been covered; and provided further, that the applicant shall have been reputably engaged in the practice of medicine for at least one year subsequent to receiving the license upon which registration in this state is sought.

QUALIFICATION NO. II

A certificate of registration or license issued by the proper board of any state, may be accepted as evidence of qualification for reciprocal registration in any other state; provided that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and the date of such diploma is prior to the legal requirement of the examination test in the State of Minnesota (A. D. 1887, July 1).

A diploma, a fee of \$50.00, and a recent unmounted photograph of the applicant, attested to before a notary public, must accompany this application in Minnesota; and applications must be on file in the secretary's office not later than the first day of January, April, June, or October.

No temporary permits to practice are issued.

Reciprocity certificates are now received by the Minnesota board from the following states and as indicated:

QUALIFICATIONS NOS. 1 AND 2

Indiana	Michigan
Iowa	Nebraska
Kansas	Ohio
Maine	Wisconsin

QUALIFICATION NO. 2

District of Columbia	South Carolina
Maryland	Tennessee
Missouri	Texas
Nevada	Utah
New Hampshire	Virginia
New Jersey	Wyoming

THE STATE FAIR

The medical men of Minnesota should show their loyalty to the state by giving the State Fair the encouragement of their presence. These annual exhibits have long been the best in the country, and they possess no small value in the up-building of the state. The Fair is not alone a place of interest, but it is a place of profit for any man to visit. In no other way can the agricultural greatness and progress of a state be so well set forth, and thus attract the attention of men who are to become future citizens.

The Fair management is in excellent hands and it will be better and larger this year than ever before, and it will be well worthy a visit.

It opens tomorrow (Sept. 2) and continues to the end of the week.

NEWS ITEMS

Dr. T. N. Thoresen, of Benson, has moved to Minot, N. D.

Dr. S. J. Froshaug, formerly of Hills, has located in Benson.

Dr. E. Lohbauer, of Lakota, N. D., has gone to Europe for special work.

Dr. A. E. Hofer, of Marion, S. D., is spending six weeks at the Chicago Policlinic.

Mrs. Ranie Crane, a professional nurse, has opened a private hospital at Minot, N. D.

Dr. C. L. Larsen, of Buffalo, is doing post-graduate work in the University of New York.

Dr. S. H. Olson, of Milaca, and Miss Jennie Lewis Flower, of Austin, were married last month.

Dr. S. E. Williams, of St. Paul, who has been in Europe for the past three months, is expected home soon.

Dr. F. A. Bordwell, of Rolette, N. D., has sold his practice and moved to Calvin, in the same state.

Dr. F. F. D. Scholten, one of the old-time practitioners of the state, died last month at Winnebago.

Dr. John C. Greenfield, of Avon, S. D., who retired some time ago, announces that he will resume practice.

Dr. P. E. James, of Hutchinson, spent the month of July doing post-graduate work at the Chicago Policlinic.

Dr. E. W. Benham, of Amboy, has located in Mankato, and will make a specialty of eye, ear, nose and throat work.

Dr. Wm. Edwards, of Bowdle, S. D., is at the Policlinic in Chicago, on his annual jaunt for post-graduate instruction.

Drs. W. R. Claybaugh and F. A. Bordwell, of Rolette, N. D., have dissolved partnership, the former retaining the practice.

Dr. G. E. Holdridge, formerly of Foley, has decided to locate at St. Cloud. He will first do some post-graduate work at Chicago.

Dr. E. W. Buckley, of St. Paul, was elected medical director of the Knights of Columbus at their recent meeting at Jamestown, Va.

Dr. J. W. Bowen, a graduate of the University of Pennsylvania, has entered partnership with Dr. Homer A. Davis, of Dickinson, N. D.

Dr. Samuel Sprecher, of Tripp, S. D., has purchased a residence in Mitchell, S. D., and will move to that city about the first of the year.

Dr. August Gronerud, of Kennedy, who recently sold his practice, will take a course in post-graduate work before locating elsewhere.

The new hospital at Kenmare, N. D., under the management of Dr. I. C. Wiig, has been opened, and will accommodate twenty patients.

Dr. Jesse E. Shull, of Alpena, S. D., has sold his practice to Dr. P. E. Burns. Dr. Shull will spend several months in post-graduate work.

Dr. W. I. Coory, of Hannah, N. D., is in Chicago taking surgical and anatomical work with Prof. Paul Gronnerud at the Chicago Policlinic.

Dr. G. C. Reid, who has been connected with St. Mary's Hospital of Rochester for the past two years, has gone to Rome, N. Y., for general practice.

Dr. L. A. Pickering, of Warner, S. D., has sold his practice to Dr. W. H. Still, formerly of Sioux Falls. Dr. Pickering will move to Stratford, S. D.

Dr. Edward Moren, who has been connected with the City Hospital for the past year, has become the associate of Dr. C. J. Ringnell, of Minneapolis.

Dr. E. F. West, of the Soldiers' Home at Johnson City, Tenn., has been appointed superintendent of the National Soldiers' Home at Hot Springs, S. D.

Dr. George E. Vaughn, of Hurley, S. D., has bought the practice of Dr. A. J. Hammond, of Winnebago City. Dr. Hammond will locate in Minneapolis next month.

Dr. R. D. Jennings, superintendent of the Battle Mountain Sanitarium at Hot Springs, S.

D., has moved to Rapid City, in the same state, to enter into general practice.

Dr. and Mrs. W. J. Mayo and daughters, Drs. and Mrs. Christopher Graham, and Miss Alice Magaw, all of Rochester, have returned from a touring trip in the British Isles.

Dr. Guy Vandemark, a recent graduate of Northwestern, who has been in a Chicago hospital for a year, has purchased the practice of Dr. A. L. Amsberg, of Hartford, S. D.

The Norwegian Lutheran Hospital Association has decided to re-open its hospital at Zumbrota, and the work of remodeling has been begun. Dr. G. C. Hoff, of Zumbrota, is the hospital physician.

St. Michael's Hospital, of Grand Forks, N. D., will be ready for occupancy next month. The various lodges of Grand Forks have been requested to furnish rooms for the use of their members.

Dr. H. E. Robertson, a graduate of the University of Pennsylvania and a member of the faculty of Harvard Medical College, has been elected demonstrator in pathology at the State University.

Dr. E. J. Davis has been re-elected surgeon-in-chief of the Soldiers' Home at Minnehaha. Dr. C. G. Higbee, of St. Paul, and Dr. D. R. Greenlee, of Minneapolis, were elected consulting surgeons.

Dr. Thomas F. McKey, of Albert Lea, has given up the practice of medicine, and become the proprietor of the Hotel Calumet, at Pipestone, evidently to smoke the pipe of peace, after practicing medicine nearly a quarter of a century.

The Rush Alumni Association elected the following officers at the annual meeting held last month at Duluth: President, Dr. J. W. Chamberlin, of St. Paul; vice-president, Dr. A. H. Steen, of Cottage Grove; secretary, Dr. T. C. Clark, of Stillwater.

At the annual meeting of the State Medical Association, held at Duluth, Aug. 13th and 14th, the following officers were elected for the current year: President, Dr. W. H. Magie, Duluth; first vice-president, Dr. A. B. Stewart, Owatonna; second vice-president, Dr. G. G. Eitel, Minneapolis; third vice-president, Dr. E. Y. Abbott, St. Paul; secretary, Dr. Thomas McDavitt, St. Paul; treasurer, Dr. R. J. Hill, Minneapolis; delegate to the National Association, Dr. J. B. McGaughey, Winona; councillors, Dr. Wm. Davis, St. Paul; Dr. William Millspaugh, Little Falls, and Dr. H. M. Workman, Tracy, the latter being re-elected.

The regular meeting of the Black Hills District Medical Society, of South Dakota, will be

held at Hot Springs on Sept. 7. Physicians, whose names are familiar on five continents now sojourning at Hot Springs, will contribute to the scientific program. Illegal practitioners and other subjects will be discussed. Other entertainment and diversions will be provided, so that a most agreeable outing is anticipated. If those who expect to attend this meeting will inform the secretary, Dr. F. E. Ashcroft, Deadwood, previous to September 5th, it will be appreciated. All legally qualified physicians of good moral and professional character are cordially invited.

The Fourth District Medical Society of South Dakota, to be held at Huron, September 11th, the following papers will be read:

"Refraction from Viewpoint of the General Practitioner," Dr. E. B. Taylor, Huron; "Do Tonsils and Adenoids Return after Removal," Dr. L. G. Hill, Watertown; "Intestinal Anastomosis," Dr. Van Buren Knott, Sioux City, Ia.; "Uterine Prolapse," Dr. E. Jay Clemons, Aberdeen; "Tuberculosis: Its Past, Present and Future," Dr. F. M. Crain, Redfield; "The Summer Diarrheas of Children," Dr. H. Denman, DeSmet; "Prostatic Hypertrophy," Dr. A. C. Stokes, Omaha, Neb.; "Clinic, Prostatectomy," Dr. A. C. Stokes, Omaha, Neb.

FOR SALE

An unopposed practice, within forty miles of Minneapolis and paying \$3,000, is offered for sale for \$500 cash or for \$600, one-half cash. This includes good horse, buggy, and cutter, and some office furniture. Reason for selling is desire to change climate. Address I. M., care of this office.

WANTED—POSITION IN DOCTOR'S OFFICE

Young lady of some experience and good address wants office work. Does not use typewriter. Address Miss W., care of this office.

FOR SALE

In the central part of Minnesota, an unopposed good practice with a paying drug-store in connection. Large territory; population mixed; books will bear inspection. I desire to retire. Address N. M., care of this office.

TO THE PROFESSION—X-RAY LABORATORY

I have a well equipped x-ray laboratory, rooms 214-218 American National Bank Building, corner Fifth and Cedar streets, and am prepared to do your radiographic work.—W. S. FULLERTON, M. D., St. Paul, Minn.

OFFICIAL ORGAN OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

VOL. XXVII

SEPTEMBER 15, 1907

No. 36

TRANSACTIONS OF THE MINNESOTA STATE MEDICAL ASSOCIATION

THIRTY-NINTH ANNUAL MEETING

1907

OFFICERS AND COMMITTEES - 1907

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COUNCILOR—SECOND DISTRICT

J. G. MILLSPAUGH, M. D. (3 years) Little Falls

COUNCILOR THIRD DISTRICT

WILLIAM DAVIS, M. D. (3 years) St. Paul

COUNCILOR—FOURTH DISTRICT AND PRESIDENT
OF THE COUNCIL

F. A. KNIGHTS, M. D. (2 years) Minneapolis

COUNCILOR—FIFTH DISTRICT

H. M. WORKMAN, M. D. (3 years) Tracy

COUNCILOR—SIXTH DISTRICT

A. E. SPALDING (1 year) Luverne

COUNCILOR—SEVENTH DISTRICT

F. A. DODGE, M. D. (2 years) Le Sueur

COUNCILOR—EIGHTH DISTRICT

A. O. BJELLAND, M. D. (1 year) Mankato

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MEMBERS OF THE HOUSE OF DELEGATES OF THE

AMERICAN MEDICAL ASSOCIATION

Delegates

FOR ONE YEAR

ALFRED E. SPALDING, M. D. Luverne

FOR TWO YEARS

JAMES B. McGAUGHEY, M. D. Winona

Alternates

FOR ONE YEAR

JOHN J. EKLUND, M. D. Duluth

FOR TWO YEARS

ARTHUR SWEENEY, M. D. St. Paul

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J. B. McGAUGHEY, M. D. Winona

Roster of the House of Delegates

SOCIETIES	DELEGATES	ALTERNATE
Aitkin County	A. G. Belsheim	Aitkin
Blue Earth	J. W. Andrews	Mankato
Blue Earth Valley	C. N. Burton	Elmore
Brown-Redwood	J. L. Adams	Morgan
Camp Release	D. N. Jones	Gaylord
Camp Release	C. E. Rogers	Montevideo
Central Minnesota	W. S. Titus	Mora
Chisago-Pine	Thos. Zeien	North Branch
Clay-Becker	E. R. Barton	Frazee
Dodge	F. W. Davis	Kasson
Freeborn	O. A. Burton	Albert Lea
Goodhue	F. W. Dimmitt	Red Wing
Hennepin	A. E. Benjamin	Minneapolis
Hennepin	G. D. Haggard	Minneapolis
Hennepin	C. H. Hunter	Minneapolis
Hennepin	J. M. Lewis	Minneapolis
Hennepin	F. C. Todd	Minneapolis
Houston-Fillmore	G. A. Love	Preston
Kandiyohi-Swift	C. L. Scofield	Benson
Lyon-Lincoln	A. J. Cox	Tyler
McLeod	Fred Sheppard	Hutchinson
Meeker	J. W. Robertson	Litchfield
Mower	A. E. Henslin	LeRoy
Nicollet	D. A. Kirk	LeSueur
Olmsted	R. C. Dugan	Eyota
Park Region	O. M. Haugan	Fergus Falls
Ramsey	Burnside Foster	St. Paul
Ramsey	H. J. O'Brien	St. Paul
Ramsey	J. T. Rogers	St. Paul
Ramsey	Arthur Sweeney	St. Paul
Red River Valley	H. Holte	Crookston
Rice	M. L. Mayland	Faribault
St. Louis	J. J. Eklund	Duluth
St. Louis	J. M. Robinson	Duluth
Scott-Carver	H. A. Schneider	Jordan
Southwestern	W. E. Richardson	Slayton
Stearns-Benton	W. L. Beebe	St. Cloud
Steele	J. H. Adair	Owatonna
Upper Mississippi	J. A. Thabes	Brainerd
Wabasha	E. H. Bayley	Lake City
Waseca	D. S. Cummings	Waseca
Washington	T. C. Clark	Stillwater
Watonwan	W. H. Rowe	St. James
West Central		
Winona	E. M. McLaughlin	Winona
Wright	J. H. Higgins	Buffalo
	C. Graves	Aitkin
	L. F. Schmauss	Mankato
	F. N. Hunt	Blue Earth City
	J. W. B. Wellcome	Sleepy Eye
	W. Z. Flower	Gibson
	A. G. Stoddard	Fairfax
	H. C. Cooney	Princeton
	E. L. Stephan	Hinckley
	W. J. Awty	Moorhead
	E. E. Harrison	West Concord
	P. E. Rodli	Albert Lea
	T. R. Watson	Zumbrota
	J. W. Bell	Minneapolis
	I. A. Crosby	Minneapolis
	W. A. Jones	Minneapolis
	A. T. Mann	Minneapolis
	D. O. Thomas	Minneapolis
	J. D. Utley	Spring Valley
	G. A. Newmann	New London
	C. E. Persons	Marshall
	B. S. Nickerson	Glencoe
	H. E. Cassell	Litchfield
	R. S. Mitchell	Grand Meadow
	F. P. Strathern	St. Peter
	Chas. T. Granger	Rochester
	G. W. Armstrong	Breckenridge
	Robert Earl	St. Paul
	H. C. Johnson	St. Paul
	J. A. Quinn	St. Paul
	Anton Shimonek	St. Paul
	Theo. Bratrud	Warren
	C. W. Wilkowski	Faribault
	S. H. Bover	Duluth
	T. M. Robinson	Duluth
	O. R. Pozdena	New Prague
	C. P. Dolan	Worthington
	C. B. Lewis	St. Cloud
	E. E. Bigelow	Owatonna
	A. F. Groves	Brainerd
	W. T. Adams	Elgin
	W. A. Chamberlin	Waseca
	W. R. Humphrev	Stillwater
	W. J. McCarthy	Madelia
	F. H. Rollins	St. Charles
	C. L. Larsen	Buffalo

Place of Next Meeting

ST. PAUL

October, 1908

Proceedings

OF

The House of Delegates

FIRST SESSION, MONDAY, AUGUST 12,
1907

The House of Delegates was called to order by the president, Dr. H. A. Tomlinson, at 2:30 o'clock in the reading-room of the Duluth Commercial Club.

On motion of Dr. Thos. McDavitt, the chair was instructed to appoint a committee on credentials consisting of two delegates.

The chair appointed as such committee Drs. R. C. Dugan and W. L. Beebe.

After a brief intermission the committee on credentials reported the following named delegates entitled to seats in the House:

Name	Association
A. G. Belshelm.....	Aitkin
D. N. Jones.....	Camp Release District
J. W. Andrews.....	Blue Earth
E. R. Barton.....	Clay-Becker
W. S. Titus.....	Central Minnesota
T. W. Dimmitt.....	Goodhue
A. E. Benjamin.....	Hennepin
J. M. Lewis.....	Hennepin
C. H. Hunter.....	Hennepin
C. L. Scofield.....	Kandiyohi
A. E. Henslin.....	Mower
R. C. Dugan.....	Olmsted
O. M. Haugan.....	Park Region District
H. J. O'Brien.....	Ramsey
J. M. Robinson.....	St. Louis
J. J. Eklund.....	St. Louis
W. L. Beebe.....	Stearns-Benton
H. A. Schneider.....	Scott-Carver
J. A. Thabes.....	Upper Mississippi Valley
E. H. Bayley.....	Wabasha
T. C. Clark.....	Washington
John Higgins.....	Wright
J. W. Robertson.....	Meeker
W. A. Jones (alternate).....	Hennepin
A. T. Mann (alternate).....	Hennepin
F. P. Strathern (alternate).....	Nicollet
Theo. Bratrud (alternate).....	Red River
W. J. McCarthy (alternate).....	Watsonwan
O. A. Burton.....	Freeborn
A. J. Cox.....	Lyon-Lincoln
Burnside Foster.....	Ramsey
W. E. Richardson.....	Southwestern
M. L. Mayland.....	Rice
F. H. Rollins.....	Winona
J. H. Adair.....	Steele
A. G. Stoddard.....	Camp Release
Arthur Sweeney.....	Ramsey

In a supplementary report at a subsequent session of the House the following delegates were seated in place of others who had left:

D. O. Thomas, Hennepin, in place of J. M. Lewis.

A. T. Groves, Upper Miss., in place of J. A. Thabes.

J. A. Quinn, Ramsey, in place of Burnside Foster.

On motion of Dr. H. M. Workman, the report of the committee was unanimously adopted.

Dr. Thos. McDavitt (Secretary): Since the minutes of the last meeting appear in THE

JOURNAL I would suggest that their reading be dispensed with, and I would move that the minutes as they appear upon the records be approved.

Dr. J. W. Andrews: I would like to inquire what the minutes state with reference to the publication of the transactions of the State Association, as to authority of the Council.

The Secretary: The following resolution was offered by Dr. Davis and unanimously adopted by the House of Delegates at its meeting last year:

That the Council shall in future make no contract for the publication of the transactions, after the expiration of the current contract, for a longer period of time than the current year, without the consent of the House of Delegates.

Dr. Andrews: Then I wish to amend Dr. McDavitt's motion that the minutes be adopted except that portion just read, limiting the power of the Council in regard to making contracts.

The reason for making that motion is this, that the action is unconstitutional and not warranted on the part of the House of Delegates; it is a violation of the by-laws and the constitution of our Association.

Dr. C. H. Hunter: Can you eliminate anything from the records?

The President: No, the amendment simply provides that that portion of the minutes be not approved. I will ask the secretary to read the by-law covering that point.

The chair will say that the only action the House of Delegates can take now is upon the question of not approving that portion of the minutes. Whether or not the action of the House was valid or not is not the question at this time, and is not debatable. Unless the House disagrees with the ruling of the chair, the chair will rule that way and the question will be passed upon in that form. The only question before the House now is whether we shall approve of that portion of the minutes of the House of Delegates with reference to the limitation of the power of the Council.

The secretary then read Section 5 of Chapter VII of the by-laws.

Dr. Andrews: Yes, that is the point. Since this is a debatable question, why does the chair rule out the reasons for making the motion?

The President: The action of the House of Delegates is not a matter of debate now. After the question referring to the approval of the minutes is settled the House can consider the subject on its merits, but the discussion of the question is not germane to the approval of the minutes.

A vote was then taken upon Dr. Andrews' motion to amend, which was declared lost.

The original motion offered by Dr. McDavitt

was then voted upon and prevailed, and the minutes of the last annual meeting of the House of Delegates were declared approved as they appear upon the records.

REPORTS OF OFFICERS

The President: The next in the order of business will be the reports of officers. I will ask the secretary if he has anything to bring before the house for consideration.

The Secretary: Dr. Hill, the treasurer, was unable to be present and has sent his report to the Board of Censors. They have examined his report, together with that of the secretary, checked it up, and found it correct. I have Dr. Hill's report on the finances of the Association, which I can read seriatim if you desire or I can give you the general results.

The secretary then read the following report:

TREASURER'S REPORT

R. J. HILL, M. D.

Dr. R. J. Hill, Treasurer, in account with the Minnesota State Medical Association

1906	Dr.	To balance on hand, June 12, 1906..	\$3,558.41
June 12		Scott-Carver County	2.00
12		Waseca County	2.00
12		Hennepin County	8.00
12		St. Louis County	10.00
14		Ramsey County, additional.....	18.00
18		St. Louis County.....	2.00
27		St. Louis County.....	2.00
July 10		Wabasha County	2.00
16		Blue Earth Valley.....	2.00
18		Southwestern	18.00
23		Upper Mississippi Valley.....	4.00
23		Houston-Fillmore County.....	2.00
Aug. 2		Chisago-Pine County	2.00
10		Freeborn County	2.00
18		Central Minnesota	2.00
Oct. 5		Hennepin County	6.00
23		Olmsted County	2.00
Nov. 5		Ramsey County	2.00
24		Scott-Carver County	2.00
Dec. 3		St. Louis County.....	12.00
16		Hennepin County	6.00
24		Ramsey County	2.00
29		Ramsey County	2.00
1907			
Jan. 3		Ramsey County	2.00
19		Wabasha County	26.00
23		Scott-Carver County	10.00
31		Blue Earth Valley.....	16.00
31		Southwestern	40.00
31		Chisago-Pine County	14.00
Feb. 9		Nicollet County	30.00
12		Ramsey County	2.00
19		Watsonwan County	10.00
Mar. 18		Watsonwan County	2.00
18		Waseca County	22.00
25		Stearns-Benton County	64.00
25		Washington County	38.00
25		Lyon-Lincoln County	26.00
25		Goodhue County	24.00
25		Central Minnesota	20.00
25		Aiken County	8.00

25	Southwestern	38.00
27	Dodge County	18.00
Apr. 5	Brown-Redwood County	38.00
5	Clay-Becker County	36.00
5	Steele County	26.00
5	Winona County	50.00
5	Scott-Carver County	8.00
5	Wright County	26.00
5	Rice County	36.00
5	Blue Earth County.....	58.00
5	Freeborn County	28.00
5	McLeod County	24.00
5	Mower County	24.00
5	Houston-Fillmore County	28.00
5	Red River Valley.....	50.00
5	Olmsted County	56.00
5	St. Louis County.....	132.00
5	Camp Release District.....	84.00
5	Kandiyohi-Swift County	26.00
5	Ramsey County	302.00
5	Blue Earth Valley.....	10.00
5	Hennepin County	456.00
15	Meeker County	20.00
15	Rice County	2.00
15	Upper Mississippi	62.00
15	Kandiyohi-Swift County	2.00
15	Park Region District.....	64.00
15	Houston-Fillmore County	6.00
15	Camp Release District.....	10.00
16	Chisago-Pine County	20.00
18	Scott-Carver County	6.00
20	St. Louis County, additional.....	40.00
20	McLeod County	4.00
23	Watsonwan County	2.00
25	Scott-Carver County	2.00
26	Hennepin County	8.00
27	Red River Valley.....	12.00
29	Blue Earth County.....	2.00
30	West Central	32.00
May 2	Camp Release District.....	2.00
3	Olmsted County	4.00
3	Blue Earth County.....	2.00
12	Ramsey County	12.00
12	Hennepin County	4.00
12	Goodhue County	12.00
12	Dodge County	2.00
14	McLeod County	2.00
15	Blue Earth Valley.....	4.00
15	Wright County	2.00
18	Goodhue County	2.00
20	West Central Society.....	2.00
22	Mower County	8.00
22	Hennepin County	6.00
		<hr/>
		\$5,936.41

Dr. R. J. Hill, Treasurer, in account with Minnesota State Medical Association

1906	Cr.	
June 12	Thos. McDavitt, incidentals.....	\$20.00
12	R. J. Polk, directory for the Secretary	6.00
13	J. H. James, for the Committee on Necrology	1.91
27	Wendell & Greenwood, badges.....	20.79
27	F. A. Knights, expense as Councilor	33.25
27	A. O. Bjelland, expense as Councilor	71.37
27	E. A. Hensel, expense as Councilor	46.36
27	F. A. Dodge, expense as Councilor..	40.00
27	H. A. Tomlinson, for Program Committee	13.60
28	Lancet, 200 reprints of Roster.....	8.00

July	2	Masonic Temple Ass'n, rent of hall.	100.00
	2	Inga Thorsen, stenographer for Secretary to June 28.....	8.00
	2	W. A. Jones, Pres. Lancet Pub Co..	94.50
	2	A. G. Long, stenographer, annual meeting	75.00
	3	H. M. Workman, expense as Councilor	15.94
	3	Western Badge Co., badges for annual meeting	4.50
	9	Luella Fiening, stenog. work on Treasurer's report	1.50
	11	Peters & Baly Co., note circulars Life Ins.....	2.75
	11	Howard & Wilson, treasurer's bond	18.75
	23	A. G. Long, balance as stenographer, 1906	93.00
	31	W. A. Jones, Pres. Lancet Pub. Co.	95.70
Aug.	1	Inga Thorsen, stenog. of Secy.....	10.00
	6	Peters & Baly, 500 membership cards	8.50
	30	W. A. Jones, Pres. Lancet Pub. Co.	95.92
	30	Stenographer of Secretary to Aug. 30	10.00
	30	Sundries for Secretary.....	10.00
Sept.	26	W. S. Fullerton, expense as Councilor	21.00
Oct.	1	Inga Thorsen, stenog. of Secy.....	8.00
	8	W. A. Jones, Pres. Lancet Pub. Co.	95.92
	26	Peters & Baly, 500 letter-heads for Secretary	2.50
Nov.	1	W. A. Jones, Pres. Lancet Pub. Co.	96.17
	1	Inga Thorsen, stenog. of Secy.....	10.00
Dec.	1	Inga Thorsen, stenog. of Secy.....	8.00
	3	W. A. Jones, Pres. Lancet Pub. Co.	96.42
	27	W. A. Jones, Pres. Lancet Pub. Co.	96.42
	28	Inga Thorsen, stenographer of Secretary	8.00
	28	Smith Prem. Typewriter Co., for Secretary .....	.75

1907

Feb.	2	W. A. Jones, Pres. Lancet Pub. Co.	96.92
	2	Inga Thorsen, stenographer of Secretary	10.00
	12	Am. Med. Ass'n Directory for Secretary	5.00
	19	H. A. Tomlinson, expense of Legislative Committee	6.46
Mar.	18	Inga Thorsen, stenographer of Secretary	8.00
	18	W. A. Jones, Pres. Lancet Pub. Co.	96.92
Apr.	2	Inga Thorsen, stenographer of Secretary	8.00
	2	W. A. Jones, Pres. Lancet Pub. Co.	96.92
May	2	W. A. Jones, Pres. Lancet Pub. Co.	96.92
	2	Inga Thorsen, stenographer of Secretary	10.00
	3	Thos. McDavitt, incidentals.....	10.00
	14	Peters & Baly, note-heads for Secretary	3.25
	15	Thomas McDavitt, Secretary, salary to June 1, 1907.....	300.00
	15	R. J. Hill, Treasurer, salary to June 1, 1907.....	100.00
	20	N. W. Lancet, reprints of Roster...	10.00
	20	Peters & Baly, 500 envelopes for Secretary	12.25
	31	W. A. Jones, Pres. Lancet Pub. Co.	91.67
	31	Inga Thorsen, stenographer of Secretary	8.00
	31	Luella Fiening, report of Treasurer.	1.50
			\$2,320.33
June	1	Bal. on hand June 1, 1907.....	\$3,636.08
			\$5,956.41

The Secretary: Dr. Hill also reports that there is a fund in the treasury, not reported here, of somewhat over four hundred and twenty dollars. This \$420 remained in the treasurer's hands when the change was made from the old to the new organization. The House of Delegates has never ordered it transferred into the general fund, and in his letter Dr. Hill asks that he be given authority to transfer this special fund into the general fund. The Council took the matter up this morning and decided to advise the House of Delegates to transfer this amount to the general fund, so that would add a little over \$420 to the amount remaining in the hands of the treasurer at this time.

Dr. C. H. Hunter: Where does that special fund come from, how was it accumulated?

The Secretary: It came mostly from the collection of back dues, some running back five or six years, which were made about the time the reorganization was effected.

On motion of Dr. T. C. Clark, the treasurer was ordered to transfer the special fund to the general fund.

On motion of Dr. E. H. Bayley, the report of the treasurer was unanimously adopted.

The President: The next in order will be the report of the secretary.

The secretary then submitted the following report:

REPORT OF THE SECRETARY

THOS. MCDAVITT, M. D.

The secretary has to report a membership on August 11 of 1159, the membership last year being 1143. He also has to report that the dues of each and every county society were paid with great promptness, only two of them being late, and they remitted their dues about June 1st.

The secretary would advise that the House of Delegates take into consideration the bonding of the secretary. As you know, the treasurer is bonded at the present time, and we have the anomalous condition of every particle of the funds going through the hands of the secretary before they reach the treasurer, but the secretary is not bonded. About the beginning of the fiscal year, in April, there are three or four days when the money pours into the secretary's office in a stream, and sometimes he has from a thousand to fifteen hundred dollars in his hands at one time. He tries to get it to the hands of the treasurer as soon as possible, but it entails too much clerical work to forward it as fast as it comes in. I think it would be a good business proposition if the secretary were bonded in a slight amount, say, about a thousand dollars.

The secretary would also suggest that the secretary of each county society be advised to

report to the general secretary after each and every meeting the action of their respective county societies, giving a full synopsis of everything that has been done.

On motion of Dr. A. E. Benjamin, the report of the secretary, together with the recommendations contained therein, were unanimously adopted.

Dr. A. J. Cox: I think the expense of the bond should be borne by the Association and that the bond should be placed at two thousand dollars. If he is handling as much as fifteen hundred dollars at one time he should not be bonded in a sum as low as five hundred dollars. I move, therefore, that the secretary be bonded in the sum of two thousand dollars, the State Association to bear the expense of a surety bond or any other bond that may be furnished.

Dr. T. C. Clark: I wish to offer an amendment to that motion by making the bond one thousand dollars. It is very rarely that there is as much as one thousand dollars in the secretary's hands at one time, and while I believe the Association should bear the expense, I do not believe in going to an unnecessary outlay.

The Secretary: It is impossible for the secretary, except perhaps once a year, to have any such sum as one thousand, or scarcely five hundred, dollars in his hands. It is only about the first of April, when the dues are remitted, that he is liable to have any such sum in his hands, as he usually sends it out again in the first mail after it is received. But about the first of the year, when the money comes in very rapidly, it is impossible to get it to the treasurer as fast as it comes in, simply because we cannot do the clerical work necessary. Usually the secretary cannot have in his hands over forty to fifty dollars, and this only until he sends it out. I think, Mr. President, one thousand dollars would be sufficient, but that is for the House to decide.

Dr. Cox: If I wanted to steal I would steal the largest amount of money on hand, whether it was one or two thousand dollars, but I think the bond should cover the largest amount handled by the secretary at one time.

The amendment of Dr. Clark was then put to a vote and prevailed.

The original motion as amended was then voted upon and unanimously agreed to.

REPORTS FROM COUNTY SOCIETIES

Dr. H. M. Workman: The secretary also recommended that the secretaries of county societies be required to make a full report to the state secretary. I move that the secretaries of county societies be instructed to make a report such as is requested by the general secretary.

Dr. F. A. Knights: It seems to me that motion is a little indefinite. We do not know whether it means a summary of the business or whether it means a complete record. I would move an amendment to the effect that a copy of the minutes be sent to the state secretary.

Dr. Workman accepted the amendment.

Dr. F. W. Dimmitt: It seems to me there are a number of things coming up in county societies that would have no special interest except to the society itself, so that I do not think it would be necessary or proper to send a copy of the minutes, and for one I do not favor that suggestion.

Dr. D. N. Jones: I like the recommendation made by the secretary. I think the secretary of our State Association ought to be thoroughly informed of what is going on in the various county societies, and the only way in which he can be informed of what is going on in the county societies is by receiving copies of the minutes. I hope it will be so ordered.

Dr. T. C. Clark: I agree with Dr. Dimmitt that many things appear in the minutes that would be of no special interest to anyone except to the county society, and I would suggest, in lieu of what has been proposed, that the secretary be authorized to get out a form, a blank form, in which could be embodied those matters of interest to the general association, the papers read, resolutions offered, etc. It could be gotten up in such a way that it could be bound, and all blanks being uniform, they could be readily filed and preserved. I would, therefore, amend the motion to the effect that the secretary be authorized to get up a form which shall provide for such information as he desires, and have it printed and issued to the secretaries of county societies.

Dr. R. C. Dugan: I think county societies may have some dirty linen they would not care to wash in the presence of the State Association, but if the secretary wants, in a general way, to know what is going on in the county societies I see no objection to his having the information, because the county society can cut out such stuff as would be of no interest except to its own body. I think some things come up in every county society that it would not want to come before the State Association, but if it is necessary to have all the things appear then I would be in favor of furnishing the secretary with the minutes.

Dr. Dimmitt: I think the idea of uniformity of reports is a good thing, and I would second the motion offered by Dr. Clark.

The President: In order that the House may act intelligently in this matter, perhaps it would be a good idea to have the secretary explain why he desires these reports.

The Secretary: The secretary merely wants this information so that each society can have printed a short synopsis of its proceedings. It will tend to create much more interest and much more regularity in the holding of meetings of county societies. It seems to me the life of our organization depends upon keeping up interest in our county societies, and if they know that their proceedings will be printed in the next issue of *THE JOURNAL* I think they will have better attended meetings, and the work will be better sustained and be of more interest when they do meet.

The President: The chair understands that the recommendation of the secretary was covered by the original motion offered by Dr. Workman, and perhaps it would be wiser to simply take action upon the original motion made by Dr. Workman and afterwards take such action as to details as the House may see fit.

Dr. J. W. Robertson: I for one do not see how the State Medical Association can order the county medical society to do anything. This society is made up of county societies, and the county societies are in a position to do the ordering.

The President: The secretary requested this action; he did not order it.

Dr. Knights: I did not know I was going to get the House of Delegates into a tangle, but with the consent of my second I would like to withdraw my amendment to Dr. Workman's motion.

Dr. Clark: With the consent of the second I will also withdraw my amendment.

The President: As the motion now stands it is the sense of the House of Delegates that the different county societies be requested to furnish the general secretary a synopsis of their proceedings for publication.

The motion was then put to a vote and prevailed unanimously.

Dr. Clark: I will now move that the secretary, knowing what he wants, be authorized to get up a form to be issued to the various county societies, specifying the things of general interest to the whole Association, and that he be authorized to issue such blank forms to the secretaries of county societies, together with a copy of this resolution attached.

The motion was duly seconded and, being put to a vote, was unanimously agreed to.

LODGE PRACTICE

Dr. E. H. Bayley: I would like to bring up a matter which I understand has been discussed and re-discussed in this Association, and that is the matter of contract-lodge practice. I do not know of any better way of meeting it, and avoid-

ing any complications, than by the profession agreeing to make no medical examinations for any lodge or fraternal organization that employs any physician by contract. For instance, a lodge has forty or fifty members; it hires a man to do its work for one dollar per head per year. The only way to head that thing off is simply to make no examinations for that lodge. I believe that would bring them to time. I will make that as a motion.

Dr. F. W. Dimmitt: I am in full sympathy with that suggestion, but I wish to ask whether we can make it a binding thing upon the members of the Association. If we can do that I am in favor of it.

Dr. J. W. Andrews: I am in sympathy with that, but I do not feel that it is quite in the form it should be so that we can discuss it to advantage. I will move to amend, that the matter be referred back to the mover and his second to present to the Association in a more tangible form.

The President: Without putting the motion, the chair would suggest, if there be no objection, that it be handed to the secretary in written form to be acted upon at a later session.

AMENDING THE BY-LAWS

Dr. Andrews: I have a little miscellaneous business I would like to bring before the Association, and some of it is germane to the motion that has just been presented to the House. I wish to offer this motion, or rather to file this notice, for consideration tomorrow:

Motion to amend Chapter 11 of the by-laws of the Minnesota State Medical Association to read as follows:

The by-laws may be amended at any annual session by a unanimous vote of all the delegates present at the session, after the amendment has been laid on the table for one day; provided, however, if notice shall have been filed in writing with the secretary of the House of Delegates at the last preceding annual meeting setting forth specifically the amendment or amendments proposed, then a two-thirds majority vote shall be necessary for adoption.

I simply present this notice of a proposed amendment to-day so that it may be acted upon tomorrow.

THE PROGRAM

If you will indulge me a little longer, Mr. President, I wish to call the attention of the House of Delegates to the present program. I am sure no one will accuse me of having any personal feeling in the matter, nor will anyone say that it is because I feel slighted myself, for this Association has conferred upon me greater honors than I have deserved, having elected me once to the presidency and on numerous occasions inviting me to prepare papers to be presented before the Association, but you will find,

gentlemen, that there will not be the attendance from the country here tomorrow that there would have been if this program had been more carefully prepared. Almost two-thirds of the membership reside in the country. I want to call your attention to the program of tomorrow forenoon. All of the participants live in one or the other of the large cities of the state, Minneapolis, St. Paul, or Duluth. I also want to call your attention to the program of the afternoon. With the exception of Dr. Davis, of Chicago, that is in the hands of the three large cities. The following forenoon the entire program is in the hands of the Twin Cities and Duluth, and in the afternoon the entire program is in the hands of the Twin Cities and Duluth. The Thursday program, with two exceptions, that of Dr. Mayo and Dr. Judd, of Rochester, consisting of thirteen papers to be presented, is in the hands of the Twin Cities and Duluth.

Now, gentlemen, I do not question the superior ability of the specialists from these three cities who furnish the program, but is the State Association organized for the purpose of having the profession come in from all over the state to listen to these eloquent and accomplished gentlemen, or is the State Association organized for the benefit of the profession of the state at large? As a member from the country I know how the country feels about it, and, as I said at the outset, personally I have no complaint to make, but it is simply as representing the country that I bring this matter before this meeting. I do not care to make a motion or to offer a resolution in relation to the matter, but I want to give the Twin Cities and Duluth fair warning that if the program committee, the committee on scientific work, all the members of which are from the Twin Cities and Duluth,—if they disregard the gentlemen from the country, no matter how poorly qualified they may be for preparing or delivering a paper, it will be an insult, if I may so term it, that will be resented by the country, and you will see its effect tomorrow.

I have no motion or resolution to offer upon this subject, but if the chair will have a little more patience I wish to introduce the following resolution and move its adoption. This is a resolution asking for special medical legislation.

COMMITTEE ON MEDICAL LEGISLATION

Whereas, the medical profession of the State of Minnesota have felt for several years past the necessity of better laws regulating the practice of medicine in this state, and

Whereas, several unsuccessful efforts have been made to secure a revision of the present laws, and

Whereas, the reasons for the failure resulted largely because of apathy on the part of the medical profession and the absence of proper organization; therefore,

Resolved, by the House of Delegates of the Minnesota State Medical Association, in regular convention assembled in the city of Duluth, State of Minnesota, that a committee of five be appointed by the president of said Association to prepare a concise, definite, and complete bill to present to the next legislature.

Resolved, that said committee shall have delegated to them the power to employ a competent attorney to co-operate as their legal advisor and assistant.

Resolved, that a copy of the proposed law be sent to each and every component society for its approval and ratification, and that these several societies be requested to report back to the committee on or before May 1, 1908.

Resolved, that this Association appropriate the sum of \$200.00 for necessary and legitimate expenses which may be incurred by said committee.

Resolved, that said committee shall make a full and complete report to the House of Delegates of the State Medical Association at the annual meeting to be held in 1908.

Instead of moving the adoption of these resolutions at this time, I will move that they be made a special order of business at the next session of the House of Delegates, at such time as the president and secretary may designate.

The motion offered by Dr. Andrews was put to a vote and unanimously agreed to.

POWER OF COUNCIL TO MAKE CONTRACTS

Dr. Andrews: There is one other matter I wish to bring before this House of Delegates, and that is, I wish to move to rescind the action of the House of Delegates at its last annual meeting in that it limited the power of the Council in contracting for the printing of the transactions of the State Association. My motion is based on the present Sec. 5 of the by-laws.

Dr. C. H. Hunter: Is it contemplated that the Council will do these things independently and against the will of the Association? The motion was simply to limit the time for which contracts could be made.

The President: It is simply to restore the *status quo* as it was last year.

A vote being taken upon the motion offered by Dr. Andrews, to rescind the action of the House of Delegates at its last annual meeting limiting the power of the Council to contract for the printing of the transactions of the State Association, it was unanimously agreed to.

On motion of Dr. R. C. Dugan, the House adjourned to meet at ten o'clock on Tuesday morning.

SECOND SESSION, AUGUST 13, 1907

Pursuant to adjournment, the House of Delegates was called to order at 10 o'clock in the morning by the president, Dr. H. A. Tomlinson.

On motion of Dr. Thos. McDavitt, the House adjourned subject to the call of the president.

THIRD SESSION, TUESDAY, AUGUST 13,
1907

Pursuant to a call issued by the president, the House of Delegates convened at 4:45 o'clock.

Upon roll-call by the secretary a quorum was found to be present.

The minutes of the previous session were read by the secretary and, on motion of Dr. Hunter, were approved.

COMMITTEE ON MEDICAL LEGISLATION

The President: Pursuant to the action taken yesterday, it will be necessary at this time to take up the resolutions offered by Dr. Andrews, referring to special medical legislation.

The secretary then read the resolutions, which appear in the record of the first session of the House of Delegates.

Dr. Andrews moved the adoption of the resolutions.

Dr. Andrews: Regarding the resolutions now before the House I briefly want to say this: I sincerely hope these resolutions will pass. Every year for several years we have been trying to secure, in some way, better medical legislation, better legislation covering the practice of medicine in Minnesota, and we have always been met with the argument that it was of no use, that the physicians of Minnesota had not influence enough in the legislature to get anything, and the result was we would lie down and do nothing. I have no sympathy with any such talk or spirit like that. I know we can get something, and I fully believe if these resolutions are adopted and acted upon by a committee appointed now, by the time our legislature meets again we shall be prepared to get what we want, and I am sure that revised medical legislation is needed in the state of Minnesota. In almost every town of the state we have osteopaths, chiropractics, and others of like kin practising medicine. The idea of the bill here proposed is not to have any class legislation, but to have an act passed to take the place of former medical legislation so that we may be in a position to do something.

Now, gentlemen, let us not lie down on this and say we cannot do anything because we have no influence in the legislature. I know the physicians of Blue Earth County have influence, and I will guarantee that every legislator from Blue Earth County will act in favor of the medical legislation we may propose, and that same statement I believe will hold true in every county in this state. I hope the resolution will pass.

The motion, having been duly seconded, was voted upon and prevailed unanimously.

The chair announced that the committee pro-

vided for under the resolution would be announced at a subsequent session.

LODGE PRACTICE

The President: Dr. Bayley, of the Wabasha County Society, yesterday brought up the subject of lodge practice and was requested to put his resolution into written form. He has done so, and the secretary will now read the resolutions.

The secretary then read the following resolutions submitted by Dr. E. H. Bayley:

Resolved, that we, the House of Delegates, in regular convention assembled in the city of Duluth, state of Minnesota, recommend that the members of component societies refuse to make any medical examination for any lodge or any fraternal life insurance society that employs any physician by contract to provide medical services for its members or their families.

Resolved, that we further recommend that members of component societies refuse to make insurance examinations for any fraternal societies for less than two dollars (\$2.00) for each and every examination.

Resolved, that we further recommend that each and every component society formally adopt these resolutions so that they may become an integral part of the minutes of the several component societies.

Dr. D. N. Jones moved the adoption of the resolutions.

Dr. C. H. Hunter: What companies are hit by such resolutions? What class of doctors is affected?

Dr. Bayley: In answer to the doctor's question I would say that the Independent Order of Foresters is affected in some places and a good many of the fraternal societies. The Eagles I am not familiar with, but the Red Men have this practice, the Workmen pay two dollars and the Woodmen pay one dollar. It is the matter of contract-lodge practice against which I especially introduced this resolution. There has been a time in Lake City when that contract practice was in vogue by the Foresters, the Red Men, and the Workmen; now it is practiced only by the Foresters. It died out among the Red Men and the Workmen, but the Foresters still continue it.

Dr. F. W. Dimmitt: The Red Wing Foresters and Red Men for a number of years had this practice in vogue, but the two physicians under contract agreed in writing to do it no more, and we stopped it right there. We also made two dollars the minimum fee for any fraternal or life-insurance examination, therefore, these resolutions will not hit Red Wing.

Dr. Bayley: The practice of the Foresters was that if they had fifty members they would pay the physician fifty dollars.

Dr. T. C. Clark: I am in sympathy with the first resolutions in regard to making examinations, but as far as fixing the fee by twenty-two men is concerned, acting for the entire profession

of the state, I should object to that. I should not like to see this House of Delegates pass that resolution. I am examiner for the For-esters, a lodge of two or three hundred members, and they made a proposition whereby the examining physician be paid so much a year for examining members. I absolutely refused to do that.

I would recommend that instead of two it be made three dollars. I am in hearty sympathy with the first part of the resolutions, urging the refusal to make examinations for any order which makes a contract price and attending the members or their families, but I am not in favor of fixing the fee. I am sure it would do more harm than good. I do not believe it would be policy to legislate for the physicians at large. I refused to do business for the Eagles for the reason that they have contracts. Leave it to the individual physician or to the subordinate societies as to what they will do.

Dr. J. W. Andrews: I differ a little with the last speaker. We are a legislative body, we represent our county societies, and they entrust us with the duty of inaugurating and enacting such legislation as would be for the best interests of the profession of the state. We represent the profession just the same as our senators and representatives represent us in the legislature. Aside from that, it is not made compulsory upon the members of component societies that they should do so and so, but it is only so recommended. I do not think there could be any objection to such a course.

Dr. Clark: The last clause says that each society shall act upon the recommendations and put them in force.

Dr. H. M. Workman: Our county society provides for a fee of three dollars for an insurance examination. We prohibit contract practice. If we fix the fee at two dollars it will conflict with the practice of some societies that have a larger fee. We now get three dollars, and I would therefore move to amend by striking out the words that refer to a definite fee.

Dr. F. A. Knights: While I have no objection whatever to legislate along this line, yet it seems to me worth while to remember that we have been over this ground once in the State Association, and that at one time we enacted legislation exactly along this same line. That legislation fell down on the plea that we were discriminating against contracts of another kind; that we discriminated against lodge practice, but not against railroad and corporation work. This is a big question and is not to be disposed of by any such resolution that covers only a part of the ground, as this resolution does. The objection would at once be made that it favored

the big fellows while discriminating against the little fellows. It may be desirable to take some action along this line, but it seems to me it ought to be much more carefully considered and much more far-reaching in its scope than this resolution.

Dr. D. N. Jones: In our society we practically threshed over this ground in all its phases and have in force a resolution similar to the one under consideration, with this exception, in our society we have passed a resolution making the fee no less than two dollars for fraternal societies. That gives leeway for charging more, but we have put the ban upon making it less than two dollars. As long as the resolution contains merely a recommendation it is not forcing anyone, and I think it is our duty as physicians to pass this resolution. I think there ought to be some action taken by the Association in this respect. Last year we took a stand in making the old-line insurance companies pay for examinations, and to-day they are giving way to the profession of this country. They find they made a mistake and they are coming to our terms, and it is so considered by the county societies. They are coming in and paying us a minimum fee of five dollars. I hope some minimum fee will be suggested which will not interfere with a fee that is higher in other localities.

Dr. Bayley: This says "for less than two dollars;" it does not prohibit them from charging as much as they wish.

The President: The chair would like to suggest, with the permission of the House of Delegates, that he believes if the mandatory words in the last section were eliminated the resolution would be adopted without any dissension. Simply make the recommendation to the county societies, but do not ask them to make it a part of their minutes.

Dr. Clark: That would meet my objection, but as I understand it, that last section carries with it the approval or disapproval of the resolutions. I think if the last resolution were left out it would be better. If this is enforced in our societies some of our members will have to step out. I know a member of a society who is a contract physician, and he will step out, I know. If this is carried through in its present form, it will be a fruitful source of annoyance and discussion, and a reflection upon the legislation of this Association.

Dr. Jones: If the amendment passes it will conflict with the legislation passed by county societies.

Dr. Workman: With the consent of my second I will withdraw my amendment.

Dr. Bayley: I am willing to accept the suggestion in relation to the last section.

Dr. Clark: I move an amendment to substitute for the last section, that a copy of these resolutions be sent to each component society.

Dr. Bayley: I accept that amendment.

The motion of Dr. Jones being put to a vote, the resolutions were unanimously adopted in their amended form.

REPORT OF THE COMMITTEE ON NECROLOGY

The President: I believe the Committee on Necrology is ready to report.

The committee submitted the following:

The Minnesota State Medical Association has lost nine members by death, as reported to the committee, as follows:

May, 1906, Dr. Herbert W. Rogers, of Montevideo; member of the Camp Release District Society.

June 16, 1906, Dr. West Jacobs Swartz, of Forest Lake; member of the Washington County Society.

August 18, 1906, Dr. Reynald Juan Fitzgerald, of Minneapolis; member of the Hennepin County Society.

August 27, 1906, Dr. Columbus G. Slagle, of Minneapolis; member of the Hennepin County Society.

December 26, 1906, Dr. Cyrus K. Bartlett, of Minneapolis; member of the Hennepin County Society.

January 13, 1907, Dr. E. E. Barnum, of Pine City; member of the Chisago-Pine County Society.

March, 1907, Dr. A. F. Ritchie, of Duluth, member of the St. Louis County Society.

April, 1907, Dr. Thomas Homer Wimer, of Marshall; member of the Lyon-Lincoln County Society.

May 16, 1907, Dr. Charles Simpson, of Minneapolis; member of the Hennepin County Society.

The committee would recommend, as a mark of respect, that the names of these deceased members be read by the chairman of the meeting, and that the members assembled remain standing during such reading.

The committee would further recommend that the biographies attached to this report be published in full in the printed proceedings of the Minnesota State Medical Association.

J. C. CROSS, M. D.,
The Committee on Necrology.

On motion of Dr. T. C. Clark the report of the Committee on Necrology was unanimously adopted, the members of the House of Delegates rising to their feet while voting.

AMENDING THE BY-LAWS

The resolution submitted by Dr. J. W. Andrews at the previous day's session, providing for the amendment of Chapter II of the by-laws, was then called up for consideration. The resolution provided as follows:

The by-laws may be amended at any annual session by the unanimous vote of all the delegates present at the session after the amendment has been laid on the table one day; provided, however, if notice shall have been filed in writing with the secretary of the House of Delegates at the last preceding annual meeting setting forth specifically the amendment or amendments proposed, then a two-thirds majority vote shall be necessary for adoption.

Dr. Andrews moved the adoption of the resolution.

Dr. Andrews: In 1905 an amendment was adopted to the constitution regarding this contract practice, defining it and prohibiting certain practices. The Blue Earth County Society and many other county societies took up the matter and adopted this amendment, which was passed by the House of Delegates of the State Medical Association, and they became a part of our transactions. Returning to the State Association last year, by some political maneuvering and on account of the weakness of this provision relating to amendments, a simple majority did away with that amendment. Now we are trying to amend a part of it by the resolution just passed, and I know of no by-law in the constitution that requires so little to amend as Section 11. After the amendment has laid on the table one day it may be carried by a majority of one. This amendment gives it greater stability; they cannot get together and pass an amendment without giving some notice, and that will come to the knowledge of component societies. That is why I think we ought to have the by-laws more safely guarded.

Dr. C. H. Hunter: There seems to be a question about the stability of the constitution and by-laws. It requires a period of time and it requires debate to amend the constitution, but you will find the requirements are different to amend the by-laws. The by-laws are sufficiently flexible so we can change them in order to do business without having to defer action from one year to another. Perhaps that was lost sight of by the doctor, and it may not be necessary to fix the by-laws in such an iron-clad manner.

Dr. W. L. Beebe: The amendment to the by-laws to which Dr. Andrews refers—the last one—is to my mind in the proper condition in which it should be left. It would be a bad precedent for this Association to fix the by-laws so they could not be amended the same as the constitution. Emergencies will occur in which we want to amend the by-laws. His amendment is identical with the process by which the constitution is amended; there is no difference. The practical thing to do is to leave it in the condition in which it now is.

Dr. F. W. Dimmitt: It seems to me the proposed amendment authorizes us to change it in any one day by a unanimous vote, but if it lies over until later a two-thirds vote is required. A unanimous vote we can rarely get.

Dr. T. C. Clark: I would like to inquire whether this means a two-thirds vote of the members present of the House of Delegates or the unanimous vote of the House of Delegates?

The President: The members present.

Dr. H. M. Workman: How would it do to amend it by making it two-thirds in place of

unanimous? I will move to amend by making it two-thirds in place of unanimous.

Dr. Andrews: I accept that amendment. Strike out the word "unanimous" and insert "two-thirds," or make it three-fourths.

Dr. F. A. Knights: I am a little confused as to just how this would affect the by-laws or how it would read after amended. As it is now it requires a year's notice.

Dr. Workman: If it did not have a two-thirds vote it would have to lie over.

The President: The chair understands that Dr. Andrews accepts the amendment and that the amendment would read that the by-laws may be amended by a three-fourths vote if the amendment is an immediate one, but if it lies over a year it will require a two-thirds vote. As I understand it that is the way Dr. Andrews' amendment will read.

Dr. Knights: It seems to me that makes the by-laws entirely too unwieldy to modify. It would be better to take the chance of making an occasional mistake in that way than to tie up the by-laws so as to make it difficult to modify them, or so that we would not change them sufficiently to keep pace with the growth of the Association. If a matter is overlooked, as it frequently is, at an annual meeting, and is not sufficiently understood to get a three-fourths vote, it would be deferred from year to year, and the modification of the by-laws would give us so much work we could not keep pace with the needs of the Association.

Dr. Andrews: This is the parent society, and the component societies are looking to us for judicious and careful legislation, and our by-laws, with this provision for amendment, are like a ship without a rudder. A simple majority can come in here now and legislate on any subject they wish to introduce. They can give notice of a proposed change in the by-laws and come in here the next day and carry it by a bare majority. Let us make it three-fourths according to Dr. Workman's motion. If it is necessary to change the by-laws at the present session, three-fourths ought to be willing to make the change at the present session, and in that way our by-laws will be safeguarded, and then if you want to make it a majority after it lies over a year I have no objection to that.

Dr. J. C. Boehm: Do I understand Dr. Andrews' amendment to mean that it makes it three-fourths instead of a majority?

The President: Dr. Andrews' resolution provides that there shall be three-fourths for immediate amendment, and two-thirds majority if laid over one year. At that time it may be made two-thirds instead of three-fourths.

Dr. F. H. Rollins: It does not seem to me to

be good policy to make the same requirements for changing the by-laws as are now required for changing the constitution. It appears to me we cannot do business with a set of by-laws which it takes a year to change. I believe it should be possible for the House of Delegates to change a by-law from day to day. You make the by-laws a part of the constitution if you cannot change them by a majority. I would object to any procedure of that kind.

Dr. C. H. Hunter: In order that this resolution may prevail it must have, under the present rule of the by-laws, a majority?

The President: The chair so understands it.

Dr. Hunter: And afterwards, if it carries, it must have more than a majority?

The President: That is the understanding.

A vote was then taken upon the adoption of the amendment to the by-laws as amended by the motion offered by Dr. Workman, and the resolution was declared lost by a vote of ten in the affirmative and fifteen in the negative.

DEFENSE COMMITTEE

Dr. W. J. McCarthy: I wish to introduce the following resolution passed by the Watonwan County Society:

Resolved, by the Watonwan County Medical Society, at a meeting of said society held in Madelia, Minnesota, on the 10th day of April, 1907, that we recommend to the House of Delegates of the State Medical Association of Minnesota, that a committee, to be known as the Defense Committee, be created, which said committee shall consist of eight members, one from each Councilor District, to be appointed by the president of the State Medical Association, which said members may, in the discretion of the said president, be the councilor from each of said districts.

That the duty of said committee, when one of the members of the State Medical Association is accused of malpractice, shall be to visit, investigate, and ascertain the facts relative to such accusation, and to extend such aid to such accused person as in their judgment seems proper in the premises.

Resolved, that a per capita tax of twenty-five cents for each member of the State Medical Association of Minnesota be imposed and collected; that the money secured in this manner be used for the purpose of defraying the expenses of the committee above provided.

Dr. McCarthy moved the adoption of the resolution.

Dr. J. A. Thabes: I am heartily in sympathy with this resolution. I had a similar resolution I wished to present, but Dr. McCarthy anticipated me. I would suggest, however, that the per capita tax be placed at one dollar, as twenty-five cents would create too small a fund with which any work might be done to advantage.

The President: The chair is of the opinion that this resolution cannot be acted upon at this time.

The Secretary: I think this would be in direct violation of our constitution; in other words,

it would permit the president to appoint the Council.

Dr. J. W. Andrews: He does not appoint the Council, but he appoints a councilor in his discretion.

The President: According to the constitution, the president has no right to prescribe the duties of the Council.

Dr. T. C. Clark: If I understand that resolution it does not say the chair shall appoint the Council, but may, in his discretion, appoint on that committee a member of the Council. They are a committee for a specific purpose, and the fact that they are councilors has nothing to do with it.

Dr. C. H. Hunter: I think under the rules this resolution would have to lie over a year.

On motion of Dr. Thos. McDavitt, the resolution was laid over until the next succeeding session of the House of Delegates.

Dr. F. A. Knights: I move that when we adjourn we adjourn to meet at 11 o'clock tomorrow morning, and that at that time we take up the report of the Council as a special order of business.

Dr. J. W. Andrews: I would move to amend to make it 12 o'clock instead of eleven.

The amendment was accepted by Dr. Knights and, being put to a vote, prevailed.

On motion the House adjourned.

FOURTH SESSION, WEDNESDAY, AUGUST 14, 1907

Pursuant to adjournment the House of Delegates was called to order by the president in the "sui parlor" of the Spalding Hotel at twelve o'clock noon.

The minutes of the previous session were read by the secretary and approved.

Dr. R. C. Dugan, on behalf of the committee on credentials, submitted a supplementary report noting the seating of two additional delegates.

Dr. D. N. Jones: There is some error in regard to our delegate. Dr. Stoddard was reported as the alternate of Dr. Rogers. Dr. Rogers is not here, while the record shows that Dr. Clay was elected as alternate. I am positive that Dr. Stoddard was elected. Under the by-laws the committee on credentials has no authority to seat Dr. Stoddard. Our society is composed of five counties and there are enrolled over fifty members. As I am the only one to represent our society, and Dr. Stoddard is present, and I can vouch for the fact that he was elected alternate, I wish to move that the rules be suspended and that he be seated as a delegate.

The motion was duly seconded and, being put to a vote, prevailed unanimously.

OFFICIAL JOURNAL

The President: Under the action of the House yesterday the first order of business will be the report of the Council, and I will ask Dr. Knights to make that report.

Dr. F. A. Knights: I am not aware that the Council has any business matter to report to the House, except that THE NORTHWESTERN LANCET has requested an extension of the present contract for a period of five years from, I think, December 31, 1907, and the Council wishes to ask what instructions the House of Delegates wishes to give in the matter.

Dr. J. H. Adair: I move that the Council be advised to extend or complete the present contract for a period of five years after the expiration of the present contract.

Dr. W. L. Beebe: There seems to have been quite a feeling between the two journals published in the state concerning this matter, and it occurs to me that a very fair way to get at this would be to request the Council to leave this matter to the two journals and request them to submit sealed bids or make a proposition to that effect.

Dr. C. L. Scofield: It seems to me any action of this sort would to some extent hamper the action of the Council. I think it much more advisable to leave this matter with the Council, and I would suggest as an amendment to this motion that we make no recommendation to the Council at all; that it be left to the discretion of the Council.

The amendment was put to a vote and prevailed. The original motion was then voted upon and also prevailed.

Dr. J. W. Andrews: I would suggest that Dr. Scofield withdraw his amendment.

The President: It is the function of the chair to put a motion. The amendment is passed.

Dr. A. T. Mann: I move to reconsider the original motion and to place the amendment as a substitute for the original motion.

Dr. Andrews: I rise to a point of order. He cannot embody two distinct questions in the same motion.

The President: Dr. Andrews is correct.

Dr. Mann: I will withdraw the latter part of my motion.

The motion to reconsider was unanimously agreed to.

Dr. Mann: I now move that the question be sent back to the Council without recommendation to take such action as they deem fit.

The motion was duly seconded and, being put to a vote, prevailed unanimously.

The Secretary: Mr. President, this is a mat-

ter of a great deal of importance to this Association. It is a matter of importance to keep up a good feeling in the Association, and it is a matter of importance to do just what is right and fair to every one. If this matter is to be left in the hands of the Council some one should make a motion conferring the power to act, with authority to make contracts for any time they may deem proper, and it should go on record as such authority.

Dr. Arthur Sweeney: I think the amendment in the by-laws defines the duties of the Council.

Dr. Andrews: The by-laws define the duties of the Council, and this House of Delegates has no right to instruct. This House can recommend, but it cannot instruct.

The President: The chair understands the Council ask the house to advise them in this matter. The House does not feel called upon to advise them, and that leaves the question, in the opinion of the chair, for the Council to act within their authority as defined by the by-laws.

Dr. Sweeney: Has the Council authority to make contracts?

The President: They have.

The secretary then read Section 5 of the by-laws defining the duties of the Council.

The Secretary: The provisions of this section give them authority to establish a journal or to make a contract to publish the transactions in any manner, shape, or form. What the Council desire is not to override the letter of the law in any particular, and they desire to assume no authority not delegated to them, and they desire to have this authority delegated to them without question and without feeling. That is just what the Council desires from this House of Delegates. This publishing of the transactions is a matter of a great deal of importance. It stands to reason that the House of Delegates should not at this time advise the establishing of a journal—a special journal. If we cannot have our transactions printed in journal form we must enter into a contract. There is no journal, from a financial standpoint, that is willing to take the publication of our transactions for a single year. If there is any doubt on the question in reference to the authority of the Council to grant a contract for longer than one year, we desire the privilege stated so it may come before bidders. If the Council has authority we desire to make either a three or five year contract, whatever term seems best.

Dr. Sweeney: As to what the secretary said, I wish to correct him in one particular. Under one of the by-laws the Council has power to furnish the transactions of this society, the Council to make contract for two years. I see no reason why it should not make a contract

with a journal for five or ten years subject to ratification at the next meeting. I am sure anything the Council did would certainly be ratified. I think it is not necessary to specifically give them the right to make a particular contract.

The President: The chair believes that the House by its action just taken expresses confidence in the Council and does not wish to advise them.

Dr. Sweeney: I would like to hear the report of the Council as to the cost of the publication of the transactions the last year.

The Secretary: The contract as it was entered into, and as you had it laid before you, provided for the publication of the proceedings at a dollar per member, furnishing each member with a copy of the journal, and it was to be paid pro rata by the month. As members came in they were paid for to the journal, and each month a check was drawn on the twelfth part of the membership for that month. The total amount paid for the last year was \$1,150.62.

On motion of Dr. W. A. Jones the House adjourned until five o'clock in the afternoon of the same day.

FIFTH SESSION, WEDNESDAY, AUGUST 14, 1907

Pursuant to adjournment, the meeting of the House of Delegates was called to order by the president at five o'clock, p. m., in the "sun parlor" of the Spalding Hotel.

On behalf of the Council, Dr. H. M. Workman reported that the Council had met and had accepted the bid of THE NORTHWESTERN LANCET as the official journal of the State Medical Association for a term of three years upon expiration of the current contract.

Dr. W. A. Jones, president of The Lancet Publishing Company, requested that the action be put into proper form.

On motion of Dr. F. H. Rollins, of St. Charles, the action of the Council, in awarding the contract to The Lancet Publishing Company, was ratified.

DEFENSE COMMITTEE

The secretary then read the resolutions submitted by Dr. W. J. McCarthy, of Madelia, in behalf of the Watonwan County Medical Society, providing for a Defense Committee of the State Medical Association. (The text of the resolution appears in the record of the last preceding session.)

Dr. Thos. McDavitt: I move that a committee of five be appointed to whom shall be referred this resolution and who are to report at the next annual meeting. This means practically the

making of a defensive organization of the State Medical Association. It is a very large and important question, and it appears to me that it should lie over at least one year and should be very thoroughly investigated.

Dr. W. A. Jones: I am in sympathy with the spirit of this resolution. I feel that this question is a very large one, and I feel, further, that we ought to have a special department of the State Medical Association known as the "Defense Association," for the care of malpractice and whatever liabilities are incurred by the physician, and I think a separate fund outside of our regular treasurer's fund should be established. The movement is an important one and should be gone into very carefully and very slowly and on the same plan that an insurance company is formed. Unfortunately, the Defense Association of Ft. Wayne, Indiana, is not in a position legally to do business in Minnesota, and we are obliged in a way, perhaps, to protect ourselves, and if this thing is taken up as it should be, and a special committee is appointed who understand something about insurance matters and who will endeavor to create a set of rules or by-laws, or whatever you may choose to call them, for that purpose, I think we can eventually establish an insurance fund or a defense fund that will be satisfactory.

Dr. J. W. Robertson: What Dr. McDavitt and Dr. Jones have said no one can question. Personally I think the defense organizations are rather an invitation to malpractice. This is something, of course, which the committee would have to consider. The truth is that if the lawyers have the knowledge come to them that when a man is sued he has behind him this organization with the money that they can give him, they will start a suit much quicker. It will be noised about much more rapidly. They will develop suits which otherwise they would not think of, and this is such a large question that certainly twelve months is not too long a time in which to consider it. If we take the malpractice suits that have occurred in Minnesota during the last ten years I think we shall find a large majority of them have been defended by defense associations, and it is rather an invitation for malpractice suits.

Dr. J. W. Andrews: The thought occurs to me that the mover of these resolutions, or at least the gentleman who introduced them, is not here, and it seems to me it is not quite courteous to so summarily dispose of them without permitting him to be heard.

Dr. A. E. Benjamin: Several years ago a defense association was started in Minnesota and it did not meet with very much success, and it seems to me if we depend upon the members of

the profession to start one, and for which we have no funds, it would be putting ourselves in an unsafe position. If we, as physicians of the state, establish one for the state it would not be quite as powerful perhaps as an older organization. I have had some recent communication with the Ft. Wayne company, and they contend that they are able to and can protect every man who has a policy in their company. But, of course, according to the recent decision of the supreme court they are not legally entitled to solicit business here, but they contend they are. I have written to the insurance commissioner recently regarding the matter, and he replied that the association perhaps had some particular reason for not complying with the law, as other states do not ask the same requirements as Minnesota does of this association. They contend that they are not an insurance company, that they are always ready and willing to carry out their contract, so that I, from my own investigation, feel that I am entirely protected by the association, and it seems unnecessary to organize another company in this field. It is a grave question and one that surely requires a great deal of thought, and that is the reason why I think the committee should study the matter over very carefully.

Dr. R. C. Dugan: I think Dr. Robertson's suggestion was all right, but I do not understand that this proposed plan aims to pay any damages or anything of that kind; it is simply to furnish fighting material. If a man has a damage suit decided against him he will have to pay his own damages. All the association will do is simply to stand by him and help him protect himself. Any insurance for the protection of medical men that agrees to pay damages is an invitation for malpractice suits, but one that simply furnishes material to fight with, which pays no damages, can be no invitation, and I think it would be a great protection to the members of this Association if we had some sort of an organization that would fight the battles of any of its members, but not pay their bills.

The President: This discussion does not conform to Dr. McDavitt's motion. Dr. McDavitt's motion is that a committee be appointed by the incoming president whose business it shall be to consider this resolution and report their conclusions with regard to its advantages at the next meeting of the State Medical Association.

The motion was then put to a vote and prevailed unanimously.

SECTIONS OF DENTISTRY AND PHARMACY

The President: The secretary wishes to call your attention to something which, perhaps, has never been brought to your notice. In traveling

about the state this past year and visiting constituent local societies this matter was drawn to his attention, and particularly at a meeting of the House of Delegates of the American Medical Association. It has been provided by the American Medical Association, and is now included in the by-laws, that there shall be established a section in dentistry, which shall include the dentists, and a section of pharmacy and therapeutics, which shall include pharmacists. Now, I have noticed in attending meetings of local societies that there are nearly always present one or two dentists and one or two pharmacists of the town. These men take an active interest in the meetings, and they not only want to be present, but the medical men of the locality seem to want them present, and they come away with a better idea of the relations between the members of the medical association and the pharmacists and dentists than they ever had before. It would be practicable for us to add two similar sections to this Association, which would not only increase our membership, but would also increase our influence throughout the state and make the interest of these three branches of the Association the same. It would give us greater strength and greater influence throughout the state, it would make the State Medical Association a greater power and bring about better relations between the pharmacists and the dentists and the medical men in Minnesota. The qualifications prescribed by the by-laws of the American Medical Association are that they should be graduates of a reputable dental college and members of an active body, and that their applications should be passed upon by the House of Delegates. If the matter is favorably considered here, it will be necessary that some change be made in the constitutional provision. I speak of this now so you may think of the matter between this and the next year. Personally, I believe it would be a very valuable addition to the Association. Provision might be made that applications be considered from men who are members of the dental association and of the pharmaceutical association and who are graduates and in good standing in their state associations. On those conditions they might be admitted by the House of Delegates so they could hold sectional meetings with us, and in that way it would not only increase our influence on account of greater numbers, but it would increase our influence on account of their interest in the work done.

Dr. H. M. Workman: Referring to the contract of the Council with the Lancet Publishing Company, I wish to say that the Council granted them thirty days in which to accept or reject the proposition.

Dr. W. A. Jones: In behalf of the Lancet Publishing Company, as its president, we accept the terms of the contract.

On motion of Dr. Thos. McDavitt the House adjourned to meet in the same place at 8:30 o'clock, Thursday morning, August 15, 1907.

SIXTH SESSION, THURSDAY, AUGUST 15, 1907

The meeting of the House of Delegates was called to order by the president at nine o'clock in the "sun parlor" of the Spalding Hotel.

The minutes of the previous meeting were read and approved.

Dr. W. L. Beebe, on behalf of the committee on credentials, submitted a supplementary report recommending the seating of Dr. D. O. Thomas in place of Dr. J. M. Lewis, of Hennepin; Dr. A. T. Groves in place of Dr. J. A. Thabes, of the Upper Mississippi; and Dr. J. A. Quinn in place of Dr. Burnside Foster, of Ramsey.

ELECTION OF OFFICERS

The President: If there is no objection, the gentlemen named will be seated and entitled to vote.

The first business to come before the house is the election of officers.

Dr. Arthur Sweeney: It is customary in selecting the man who is to occupy the most honorable position that the Association can afford to choose some man who has distinguished himself in the profession, and who has given evidence of interest in all those matters which advance the welfare of our profession, and it is with great pleasure that I rise to nominate the man who in every sense possesses the traditional requirements of those who have in the past held the office of president. It is a man who has made great attainments in scientific ability, who has raised himself to the first rank in the practice of medicine in the state. He is a man whose charming qualities have endeared him to us all and who stands for the best there is in the profession.

I take pleasure in placing before you the name, for the office of president of this Association, Dr. W. H. Magie, of Duluth. (Applause.)

Dr. J. A. Quinn: I wish to second the nomination made by Dr. Sweeney, and the words he has spoken only voice my feeling. I think the Association is doing itself the greatest honor possible in endorsing the nomination of this man, and I take pleasure in seconding the nomination.

Dr. J. W. Andrews: The Blue Earth Medical Society and the Southwestern Society wish to second the nomination of Dr. Magie.

On motion of Dr. D. N. Jones the nominations were declared closed.

On motion of Dr. A. G. Stoddard the rules were suspended and the secretary was instructed to cast the unanimous ballot of the House in favor of Dr. Magie, which was duly done, and he was declared elected president of the Association.

Dr. F. H. Rollins: I take pleasure in placing in nomination for the office of first vice-president a man who was born about forty-one years ago in the southern part of this state in one of the best farming communities of the state. I think he got a good training on the farm. His father taught him properly how to handle the hoe, how to pull weeds, dig potatoes, and husk corn. Later this young man thought the practice of medicine would be more congenial than the pursuit of agriculture. Some way he got through the University of Minnesota, although I don't know how many "ponies" he had, but he got through, and later he developed into quite a skilled surgeon and is to-day considered one of the best. I take pleasure in nominating Dr. R. C. Dugan, of Eyota, for the office of first vice-president. (Applause.)

Dr. H. J. O'Brien: I take great pleasure in seconding the nomination of Dr. Dugan.

Dr. Arthur Sweeney: It is with regret that I rise to question this procedure, as the doctor is a personal friend of mine. I rise to inquire whether, under the rules, a member of the House of Delegates can be elected to an office.

The Secretary: No sir, a member of the House of Delegates cannot become an officer.

Dr. F. H. Rollins: I withdraw the name of Dr. Dugan.

Dr. W. A. Jones: I wish to place in nomination the name of Dr. Christopher Graham, of Rochester.

Dr. J. W. Andrews: I rise to a point of order. No one can be elected to office who is not present at the meeting.

The President: Correct.

Dr. J. T. Rogers: I wish to place in nomination for the office of first vice-president the name of Dr. A. B. Stewart, of Owatonna.

On motion of Dr. R. C. Dugan the rules were suspended, and the secretary instructed to cast the ballot of the House in favor of Dr. Stewart. This was done, and he was declared duly elected.

Dr. D. N. Jones: I wish to place in nomination Dr. G. G. Eitel, of Minneapolis, for the office of second vice-president.

On motion of Dr. A. G. Stoddard the rules were suspended, and the secretary was instructed to cast the unanimous ballot of the House in favor of Dr. Eitel, which was done, and he was declared duly elected.

Dr. H. J. O'Brien: I would like to place in nomination a medical man for the office of third vice-president, Dr. E. J. Abbott, of St. Paul, whom you all know, who is a good all-round man, and who comes within the requirements of the constitution.

On motion of Dr. W. A. Jones the secretary was instructed to cast the ballot of the House under a suspension of the rules in favor of Dr. Abbott, and he was declared duly elected.

Dr. A. T. Mann: I move that the present secretary be continued in office for the ensuing year.

On motion of Dr. Arthur Sweeney the president, under suspension of the rules, was instructed to cast the ballot of the House in favor of the incumbent secretary, which was done, and Dr. McDavitt was declared duly elected.

Dr. W. A. Jones moved that the present incumbent, Dr. R. J. Hill, of Minneapolis, be retained as treasurer.

On motion of Dr. D. N. Jones the rules were suspended, and under instructions the secretary cast the ballot of the House in favor of Dr. Hill.

The President: We are now required to elect three councilors in place of Drs. Fullerton, Courtney, and Workman.

Dr. Arthur Sweeney: I rise to place in nomination for the position of councilor from the third district Dr. Wm. Davis, of St. Paul.

Dr. J. A. Quinn: Such a nomination meets with the entire acquiescence of the Ramsey County Society.

Dr. A. T. Groves: I rise to nominate Dr. J. G. Millsbaugh, of Little Falls, in place of Dr. Courtney.

Dr. A. J. Cox: In behalf of the fifth district I rise to place in nomination the present incumbent, Dr. H. M. Workman.

On motion of Dr. F. W. Dimmitt the secretary was instructed to cast the ballot of the House in favor of the nominees, which was done, and they were declared duly elected for a term of three years.

On motion of Dr. D. N. Jones, the chair was requested to appoint a committee of three to escort the president-elect into the presence of the House.

The chair appointed as such committee Drs. J. A. Quinn, of St. Paul; D. N. Jones, of Gaylord, and Dr. J. M. Robinson, of Duluth.

The Secretary: Dr. A. E. Spalding, of Laverne, is the hold-over delegate to the American Medical Association for one year, and Dr. J. B. McGaughey, of Winona, is the alternate, who is in line for the two year term. Dr. J. J. Ek-lund is the regular for the one-year term, and we have to elect an alternate for one year, and I will move that Dr. McGaughey be named as

the delegate to the American Medical Association for the next two years.

On motion of Dr. J. W. Robertson the secretary cast the ballot of the House in favor of Dr. McGaughey.

On motion of Dr. H. M. Workman, Dr. Arthur Sweeney, of St. Paul, was named as the alternate delegate for two years, and upon instruction the secretary cast the ballot of the House in his favor.

Dr. D. N. Jones: I have the pleasure of presenting to you your newly elected president, Dr. Magie.

Dr. Magie's appearance was greeted with prolonged and vociferous applause.

President-elect, Dr. W. H. Magie: Mr. President and fellow members: Under the circumstances I am not able to express my gratitude to the members of the Minnesota State Medical Association for this honor they have conferred upon me. I have always considered it an honor to be simply a physician, an honor to be a member of that noble profession. I consider it a great honor to be a member of this Association. I think my membership dates back about twenty-two years, something which I have always considered a great privilege, and now to be selected as the presiding officer of this Association is something for which I cannot find words to express my gratitude. I have enjoyed my association with the physicians of the state of Minnesota for the last twenty years more than I can tell, and, knowing me as you do and recognizing all my faults, you have seen fit to elect me as your president, and it is certainly a source of great pride and gratification to me, and I thank you very much. (Applause.)

TIME AND PLACE OF NEXT MEETING

The President: We will now take up for consideration the time and place of the next meeting.

On motion of Dr. Arthur Sweeney it was unanimously decided to fix the place of the next meeting at St. Paul upon such a date in October as the Council may specify.

The Secretary: The new president will have the appointment of the committees on scientific work, public policy, and legislation, and all the new committees ordered by the House of Delegates.

The president-elect, Dr. Magie, then assumed the chair amidst great applause.

Dr. Arthur Sweeney: I wish to move to reconsider the motion I made a few moments ago in order that the date may be set in September. I think it would be better to have the meeting during the state fair week.

Dr. A. G. Stoddard: The same thought occurred to me, but on second thought it would

seem as though it might be an undesirable week after all. The hotels would be crowded, and I believe the time as originally set would be preferable.

Dr. J. A. Quinn: I move you, sir, that we reconsider the motion just passed fixing the time and place of meeting. I voted with the majority.

Dr. W. A. Jones: I hope the motion will not be reconsidered. The time proposed is a poor one.

Dr. F. W. Dimmitt: I have heard several comments that the attendance in the Twin Cities was so much better than it is at Duluth, and if we meet during the time of the state fair—the greatest fair on earth—I am afraid the delegates will pass up the meeting and go to the state fair, and I hope the motion to reconsider will be voted down.

Dr. J. W. Robertson: The state fair is usually held the first week in September, and as chickens are ripe at that time I think it would be cruelty to animals to deprive the doctors of their usual pastime. (Laughter.)

Dr. J. W. Andrews: I rise to a point of order. A motion to reconsider is not debatable.

The motion to reconsider was then put to a vote and was declared lost.

RESOLUTIONS OF THANKS

Dr. E. H. Bayley: I wish to offer the following resolution:

Resolved, that the House of Delegates convey to Mr. W. L. Klein, the publisher of *THE NORTHWESTERN LANCET*, their sincere thanks for his painstaking efforts to accurately publish the transactions of the Association.

The motion was numerous seconded and, being put to a vote, prevailed unanimously.

Dr. J. W. Andrews: I move that it is the wish of the House of Delegates, and that they so instruct the councilors of the several districts, that they visit every component society in their respective districts at least once a year.

The Secretary: Such a resolution is already on record.

Dr. Arthur Sweeney: I move that the thanks of the House of Delegates of the State Medical Association be tendered to the St. Louis County Medical Society and to the committee who so abundantly provided the beautiful entertainment during the week.

Dr. A. T. Groves: I would amend by adding the Duluth Commercial Club and the citizens of Duluth generally.

Dr. Sweeney accepted the amendment, and the motion being put to vote in its amended form was unanimously agreed to.

Dr. A. E. Hensel: I understood that that requirement in the constitution providing that the councilors shall visit their respective societies

once a year, was stricken out at the last meeting. At least I so understood it.

The Secretary: There is such an order on the records of the Council, but no action was taken by the House of Delegates.

THE PROGRAM

Dr. W. A. Jones: I would like to inquire of the secretary who is responsible for the program.

The Secretary: The Committee on Scientific Work.

Dr. Jones: I move that the program committee in preparing the next program be instructed to limit the number of papers to thirty, in order that the program may be of reasonable length, and that the scientific session of this Association be limited to two days.

Dr. A. E. Benjamin: Dr. Jones wishes the number limited to thirty; there are only twenty now.

Dr. H. A. Tomlinson: My experience has been that the program committee usually has difficulty just the other way, but it may help the program committee to have the House of Delegates fix the number of papers exactly, because then they can refuse with better grace. Speaking from my own experience, I think the members of the program committee would be glad to have this limitation set.

Dr. F. W. Dimmitt: It seems to me in a session of only two days, thirty would be too many. I believe twenty would be a more desirable number.

Dr. Tomlinson: Twenty would be a more desirable number than thirty.

Dr. Jones: I will gladly accept that suggestion and change the number to twenty.

Dr. J. W. Andrews: It seems to me unwarrantable legislation for the House of Delegates, after the State Association has always had a three days' session, to cut out one day and make it two only. I move to amend by striking out the word two.

The amendment did not receive a second and was not acted upon.

The Secretary: Until this meeting, since the reorganization, we have never had but two days' session of the scientific section.

Dr. Jones: Three days become very tiresome, and many men go home.

Dr. Andrews: The House of Delegates meets at two o'clock on the day preceding the general session, and if we could meet the entire day and get our work out of the way I would have no objection to two days. As it is there is too much confliction.

A vote was then taken upon the motion offered by Dr. Jones, and it was unanimously agreed to.

On motion of Dr. J. W. Robertson the House of Delegates adjourned.

GENERAL SESSION

WEDNESDAY, AUGUST 14, 1907

The opening session of the Minnesota State Medical Association was called to order at ten o'clock on the morning of August 14, 1907, by Dr. Homer Collins, of Duluth, in the reading-room of the Duluth Commercial Club.

Dr. Homer Collins: In behalf of the Committee on Arrangements I take pleasure in welcoming you to Duluth, and I have the pleasure now of introducing to you Dr. C. E. Lum, of the St. Louis County Medical Society.

Dr. C. E. Lum: Five minutes ago I was requested to make a few remarks. As president of the St. Louis County Medical Society I wish to heartily welcome you to our city, and I hope the meeting may be both scientific and entertaining. I now wish to introduce to you our worthy mayor, Dr. N. B. Cullum.

ADDRESS OF WELCOME

DR. N. D. CULLUM

Mayor of Duluth

Mr. President and Gentlemen of the Profession:

A day or two ago a member of your organization suggested that it would be fitting for the executive of this city to say something on this occasion in tendering you the key, or something of that kind. This is, of course, entirely unnecessary and entirely superfluous. Duluth has the "open door" to all bodies that are organized for the betterment of their fellowmen. If we can say that for the ordinary organization banded together for one purpose or another, then how much more can we say of an organization of this kind, with its high purpose, splendid ability, and splendid individual membership! I take great pride in the medical profession and place it at the top, perhaps because I am a left-handed cousin of the profession myself.

I wish to say a few words in relation to the profession. A city is charged with a certain amount of care of its citizens. In this matter I have never thought myself supreme, and I have always been glad to be guided by the wisdom and advice of the practitioners of this city, and at no time during the incumbency of my office have I hesitated to take their advice on any point as far as the management of city affairs was concerned. I wish to take this opportunity to express my gratitude to the members of the medical fraternity for their abstinence from criticism. There is no doubt that we may sometime go wrong in the many conditions we find surrounding us, and we very frequently do go wrong, but I have an abiding faith in the

fraternal feeling and the fairness of the medical profession that they will come forward and advise freely and fully as to our action when it comes to consider the health of the city of Duluth, and there is no time when we are wrong but that I would be glad to right the wrong, if it is in my power, if they will only remind me of it. To that extent I wish to convey my gratitude to the members of the profession for their abstinence from criticism.

We are proud of our local physicians. Of course, they have little to do: the air is so pure, the water is good, that there is very little call for a physician's services, and they have very little to do except to collect money on their stocks, etc.

It is only fair as city executive that I give you a little insight into our hopes and aspirations and what we expect to do for the state of Minnesota. I take it most of you are citizens of the state and are broad enough to appreciate these things. If you will look over the situation here you will not escape the impression that the Creator has so surrounded us and so provided conditions here as to almost point out the way or the duties of man in this community. We have this great body of water extending nearly from the sea almost to the very heart of the continent, or what will be the center of the continent before a great many years have passed by. He has placed immediately behind us the greatest iron deposit in the world. I say that advisedly, because it is a matter of positive knowledge that we have the greatest amount of iron in the world in sight now, and as time advances this ore will be used to the advancement and the glory of the state of Minnesota. Besides that, He has placed at our very doors one of the finest water-powers in the world. It is of 225,000 to 250,000 horse-power. The wheels are beginning to turn, and engineers are experimenting with the power furnished to-day, so the great dream of Jay Cooke is about to be realized when he predicted the development of that great water-power. Now capitalists have got hold of it, the power has been developed through an expenditure of millions of dollars, and there is now power enough to turn all the wheels in Minnesota, and have a hundred thousand horse-power left. It will turn all the industries on the range, and this county is to have in five years an amount of work done that will equal that employed in the construction of the Panama canal.

I want to give you just a few figures to show you our growth. Seven years ago the postal receipts were \$107,000; last year \$244,000, having more than doubled in that time. The assessed valuation of St. Louis county six years ago was \$44,000,000; to-day it is \$123,000,000.

Six years ago there was shipped 9,000,000 tons of iron ore; last year 25,000,000 tons were shipped, nearly three times as much. Lake shipments were 11,000,000 tons six years ago; last year they were 29,000,000. Grain receipts six years ago were 46,000,000 bushels; last year they were 81,000,000 bushels. Grain shipments were 44,000,000 six years ago; last year they were 80,000,000. The registered tonnage was 14,000,000 six years ago, while last year it was 32,000,000.

Aside from our material growth and our commercial growth, you gentlemen who are situated in cities outside of Duluth, must realize that this means to the state as a whole a great influence in the matter of rates. At the present time it costs as much to ship a ton of manufactured iron product from Pittsburg to Duluth as it does to ship to Tacoma, San Francisco, or Honolulu; the freight-rate is absolutely the same. That certainly must militate against the state of Minnesota. That is true of every ton of iron that comes to the state of Minnesota. The location here of the lake and this great iron industry will make us strong enough to be enabled to dictate the rates for the state of Minnesota.

In regard to the manufacture of that iron, we have to-day under contract a plant to cost from eight to ten million dollars. I think Mr. Cole has told me a half dozen times in the last six months—and he likes to repeat it, being at the head of the iron industry—that \$10,000,000 has been set aside for the construction of this plant, and that before half of that is spent there will be as many millions more appropriated for other schemes to enlarge the plant, and it is his hope and his estimation that there will be fifty million dollars worth of buildings and equipment erected in the city of Duluth for the manufacture of iron products from the range. That means that aside from the taxable value of the property located in this city—and you will understand that St. Louis County pays practically the taxes of the state now—it is estimated that the cheapest manufactured products of a ton of iron will cost in labor sixteen dollars when turned out of the steel company's plant. That means that for sixteen million dollars worth of labor a million tons of iron product will be produced. It is estimated that in five years we shall be consuming five million tons of ore, and the product of that would mean eighty million dollars' worth of labor paid for here in this city. In seven or eight years nine or ten million tons of iron will be manufactured, which will mean the paying out of \$160,000,000 for labor for that one product in St. Louis County. That means a betterment in every way for every outside point

in the state, which will be a direct benefit to every citizen of the state.

We are now called the half-way station between the Atlantic and the Pacific; our oriental trade is fast developing, and we are practically on the direct route between Europe and Asia, and it will be the most economical and the most practical route when this northwest becomes strong enough so that it can say to the Congress of the United States that it wants an appropriation large enough to dig a channel from Duluth to the sea so that the ships of every nation on the globe may sail into our harbor. During the next year or two it will be possible for ships drawing from sixteen to eighteen feet to come from the Atlantic to our harbor, and that is entirely through our own shipping facilities. It will cost about \$35,000,000 more to deepen the channel to eighteen feet directly to salt water, and it would cost \$100,000,000 more to deepen the channel directly to salt water so that ships of every nation could land in Minnesota territory. It is something that every Minnesotan should be proud of. We may seem somewhat selfish, but we are selfish for a patriotic reason.

I did not expect to talk so long. I will simply say that you are in the hands of a fine, clean-cut body of men, who will entertain you, protect you, and escort you about the city, and we hope you will enjoy this visit so much that you will soon meet with us again. (Applause.)

ENTERTAINMENTS

Dr. Homer Collins: The committee on arrangements has prepared the following program:

At 11 o'clock this morning the ladies will be taken out for a drive. At three o'clock the guests will be received at the Boat Club headquarters. The aerial car will take the visitors within a block of the Boat Club house. The Boat Club cordially extends to all the guests the privileges of the Club. At eight o'clock this evening the doctors and their ladies will be our guests on a ride up the bay on the steamer Newsboy, which has its dock at the foot of Fifth avenue west. At 8:30 tomorrow morning there will be a drive for members and their friends about the boulevards. Don't miss that drive. At eleven o'clock the sight-seeing car will be in front of the Spalding Hotel to take visitors about the city. From three to six tomorrow afternoon the ladies will be in attendance at the Country Club to receive visitors. The Duluth Country Club extends to the visitors the use of its links. At eight sharp tomorrow night, Wednesday, visitors will be the guests of the St. Louis County Society on a ride on the steamer Newsboy.

I hope you will all take part in these enter-

tainments provided and enjoy them to the utmost. (Applause.)

The President: In response to the very kind words of welcome, in behalf of the Association, I wish to say, Mr. Mayor, Dr. Lum, and Dr. Collins, that we appreciate your welcome, having felt the effects of the ozone and the tonic effect of the iron, and if we do not improve our nerves it will not be the fault of the citizens of Duluth. (Applause.)

QUARANTINE MATTERS

Following the reading of the paper by Dr. H. M. Bracken, on the subject of "State Quarantine" at the Thursday afternoon session, the following motion was made by Dr. C. H. Hunter:

That the chair appoint a committee of five to follow out the suggestions contained in Dr. Bracken's paper.

The motion was duly seconded and, being put to a vote, was unanimously agreed to.

The Chairman: The secretary of the Association will now report to the general section.

REPORT OF THE HOUSE OF DELEGATES

THOS. McDAVITT, M. D., Secretary

There is a constitutional provision that on the last day of the general session the secretary shall submit to the Association a resume of the action of the House of Delegates and the Council during their meetings, and it will take only a short time.

The secretary has to report a membership up to August 7 of 1,159. The treasurer shows a balance in his hands of \$3,636.08.

A resolution relating to a new medical bill, for which legislation is desired, was left in the hands of a committee of five to report at the next annual meeting of the House of Delegates for action.

Action in reference to fraternal organization practice was taken up, and the result will appear in the printed report.

A resolution providing for the creation of a defense union was left in the hands of a committee to report at the next meeting.

The resolution adopted last year permitting the Council to make contracts for a longer time than one year was rescinded.

The election of officers held this morning resulted as follows:

President—Dr. W. H. Magie, Duluth.

First Vice-President—Dr. A. B. Stewart, Owatonna.

Second Vice-President—Dr. G. G. Eitel, Minneapolis.

Third Vice-President—Dr. E. J. Abbott, St. Paul.

Secretary—Dr. Thos. McDavitt, St. Paul.

Treasurer—Dr. R. J. Hill, Minneapolis.

Councilors for Three Years—Dr. Wm. Davis, St. Paul, Third district; Dr. J. R. Millspaugh, Little Falls, Second district; Dr. H. M. Workman, Tracy, Fifth district.

Delegate to the American Medical Association—Dr. J. B. McGaughey, Winona, two years; Dr. Arthur Sweeney, St. Paul, alternate, two years.

The action of the Council extending the contract with the Lancet Publishing Company for three years from the termination of its current contract, Dec. 31, 1907, was ratified.

The Committee on Necrology reported nine deaths in the Association during the year. A biographical sketch of each will appear during the year in the official journal.

The president appointed Drs. J. B. McGaughey, of Winona, and S. H. Boyer, of Duluth, to escort Dr. Magie, the president-elect, to the front, where he was received with great applause.

THE PRESIDENT-ELECT

REMARKS OF PRESIDENT-ELECT DR. W. H. MAGIE

I merely wish to say to the members of the State Medical Association that I heartily thank you for the great distinction you have conferred upon me. I have been a member of this association about twenty-two years. I have greatly enjoyed the meetings and also the social functions in which we have often participated together, and it is a source of great pride to me to feel that I have been selected for this high position, in spite of my shortcomings, to succeed such men as my predecessors have been. I shall try to perform the duties devolving upon me as president to the very best of my ability, that I may bring no discredit upon the Association, and I trust I may have your hearty co-operation.

Again I wish to thank you for your kindness. (Applause.)

Immediately prior to the conclusion of the last session of the general session, and after final adjournment of the House of Delegates, the following communication was received from the Minnesota State Board of Pharmacy, and is inserted in the record without, however, any official action being taken upon the matter presented:

COMMUNICATION

Minneapolis, Minn., Aug. 14, 1907.

Minnesota State Medical Association, Duluth, Minn.: Dear Doctors:

Inasmuch as the American Medical Association and the American Pharmaceutical Association have at their recent meetings adopted resolutions strongly favoring the extended use of U. S. P. and N. F. preparations in place of the numerous so-called proprietary prepara-

tions, the Minnesota State Pharmaceutical Association at its meeting this summer appointed this committee to give greater publicity (along ethical lines only) to the preparations contained in these works which are now recognized as the legal standards by the government.

The U. S. P. and N. F. are certainly worthy of much study, representing as they do the combined thought and research of the brightest minds in the medical and pharmaceutical professions, and containing practically everything that is classical in medicine.

Instead of a bewildering lot of trade names for a single formula, the above standards offer one name for a formula that is therapeutically efficient and pharmaceutically elegant.

The American Medical Association inaugurated the present national movement to turn the limelight upon the U. S. P. and N. F. preparations and to demonstrate their superiority over the great number of secret formulae.

The Minnesota Pharmaceutical Association stands committed to lend its assistance to further these worthy efforts, and propose with your permission to call your attention to these admirable preparations in a series of monthly letters.

If samples are desired for any purpose a request for the same will receive prompt attention.

The legitimate pharmacists of Minnesota are opposed to substitution and self-medication. It is our sincere belief that co-operation of the two professions along the lines indicated will result in materially diminishing these two evils.

We hope that you may have a profitable and enjoyable meeting.

Very truly yours,

THE ETHICAL PREPARATIONS COMMITTEE,
BY CHARLES J. MOOS, Secretary.

The meeting of 1908
will be held at St. Paul,
in October, on such days
as the Council may
select.

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AND
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PUBLISHED TWICE A MONTH ESTABLISHED 1870

PUBLICATION COMMITTEE OF THE COUNCIL

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THE TRANSACTIONS OF THE STATE
MEDICAL ASSOCIATION

The entire reading portion of this issue of THE JOURNAL-LANCET, with the exception of the news items, is given over to a detailed report of the transactions of the House of Delegates and the opening of the General Session.

Every member of the Association who wishes to keep in touch with the state organization should read the entire report of the House of Delegates. The business of the State Association is conducted by a body of men chosen from the county and district societies, and thus the entire state is represented at each meeting. To those who do not know what is, or has been, done, the transactions will give a clear idea. It would be of interest to know how many members are actually interested in what is being done in the House of Delegates. To prevent misunderstanding and criticism the resolutions should be carefully studied. Every resolution introduced had a distinct proposition to present, that of improving and elevating professional standing. There was no unseemly haste and no suspension of the by-laws for personal preferences.

All the committees appointed by the president will have ample time to prepare their reports

for the consideration of the Association next year. If the spirit of the resolutions is carried out, Minnesota will still occupy the high place it has held for years. New laws are to be framed, old rules will be enforced, and the business and scientific work of the state organization will be simplified.

One very important suggestion was discussed, that of a closer union of county, district, and state organizations. It is very evident that many county and district societies are not very methodical in their business and scientific work. They are not in a position often to provide and carry out a program, and, more than all, they do not feel the necessity of recording their minutes or of reporting their work through the state journal. Incidentally, it is good practice for the secretaries to make readable abstracts of their proceedings for publication. The work is burdensome to many secretaries, and to make it less so, the secretary of the State Association will provide blank forms to be filled out, in order that a permanent record may be placed on file for reference. The selection of a secretary for a county society is very important. This officer is the one man who makes the meetings successful, for he is not only secretary, but is usually the program committee.

THE JOURNAL-LANCET is willing and ready to publish the program and an abstract of the work done in county societies, but it would be better if the report was authentic.

Many of the societies throughout the state are doing good work and should be publicly recognized. The only way to gain a high place in the medical world is to have a system, and that as perfect as possible. The councilors are in a measure responsible, but they cannot do their part without the cooperation of the secretaries.

Another important matter was presented in the House of Delegates, the establishment of a defense department to aid the surgeon and physician in case of malpractice suits. This is to be referred to a committee for full consideration. It means that the physicians of Minnesota who are members of the State Association will, in time, be in a position to form a cooperative insurance company, not only for defense, but ultimately for benefits that may be extended to members who may be in want. There are many instances, too many, where the physician is not possessed of sufficient business qualifications to provide for accident, illness, and the accompaniments of old age. It is a sad commentary to find a lack of balance in the life of a physician as to the relation of business and professional skill. Frequent instances have arisen where, on account of this neglect to look toward the future of the family and old age, the physician

is stricken with a protracted illness and he and his family are in actual want. This does not apply with such force to the younger generation of medical men, but to the old practitioner it stands like a dark shadow warning him of opportunities that might have placed him beyond seeking aid from his fellow practitioners. Business principles combined with professional work would soon eliminate the necessity of mutual insurance. Until the medical man is trained to grasp a few plain business methods, he is more or less dependent on his fellows. Disasters are not uncommon, and a few are unprepared, and to those the defense fund will be a comfort.

One more comment on the Duluth meeting: Harmony and good-fellowship were noticeable companions. There were no personal or bitter denunciations, no axes to be sharpened, and a better feeling was evident. Occasional outcroppings that were more or less personal were dissipated into thin air, and to the credit of the medical men of Minnesota all personalities were forgotten, if any actually existed, as soon as the session was at work.

THE JOURNAL-LANCET will continue to be the state journal, and it will be the aim of the publication committee, the editor, and the publisher to improve the standard as long as the combination exists.

NEWS ITEMS

Dr. J. W. Little, of Minneapolis, has returned from his summer trip to Europe.

Dr. J. J. Ahern, a Rush graduate, class of '97, has located in Gregory, S. D.

Dr. Thos. G. Devitt has moved from Grand Forks, N. D., to Los Angeles, Cal.

Drs. S. C. Schmitt and F. P. Boyd, of Blue Earth, have formed a partnership.

Dr. W. S. Anderson, of Warren, has been doing post-graduate work in Boston.

Mercy Hospital, of Devils Lake, N. D., is planning a \$30,000 addition to its building.

Dr. Eward A. Hoefer has moved from Clear Lake, S. D., to Toronto, in the same state.

Dr. Wm. Davis, of St. Paul, has returned from a two months' vacation spent in South Orleans, Mass.

Dr. George D. Rice, of Pipestone, was married last month to Miss Irma George, of the same place.

Dr. L. M. Fligman, of Helena, Mont., is studying in Vienna, and will remain abroad about a year.

Dr. G. B. Ribble, of La Moure, N. D., has become associated with Dr. F. J. Campbell, of Fargo, N. D.

Dr. O. E. Rouse, of Hamilton, N. D., has moved to Detroit, Minn., after practicing a year at the former place.

Dr. J. D. Leith, of Ardoch, N. D., has located at Medford, Oregon, and not in British Columbia, as he expected to do.

Dr. W. E. Rochford, of Minneapolis, has returned from Europe, where he has been doing surgical work for several months.

Dr. F. H. Patton, of Duluth, has returned from a three months' trip in Europe. He visited a number of the leading hospitals.

Dr. W. B. Mowatt, of Walhalla, N. D., has turned his fine residence into a hospital, and will at once erect an addition for an operating-room.

Dr. F. B. Strauss, of Glenullin, N. D., is taking a short post-graduate course of surgery in Chicago, and after its completion will study in Europe.

Dr. Carl A. Klemmer, of Minot, N. D., who was a 1904 graduate of the State University, died last month in Berlin, Germany, where he was studying.

The branch of the Battle Creek Sanitarium at Sioux Falls, S. D., was opened last month. The building cost \$60,000, and other buildings will soon be put up.

Dr. K. E. Bergquist, who recently sold his practice at Cokato, goes to Galesville, Wis., where he has a fine opening as a partner of an old-established physician.

Dr. E. P. Christensen, formerly connected with the Presbyterian Hospital of Chicago, has become a member of the staff of the Budd Hospital at Two Harbors.

Dr. Carl O. Reed, of Fulton, S. D., has moved to Marcus, Iowa, and Dr. J. F. Roselle, of Alexandria, has moved back to Fulton, where he formerly practiced.

Dr. C. B. Powell, of Bellingham, has become associated with Drs. Giere and Thrane, of Madison. Dr. Powell will have charge of the laboratory work of the hospital.

Dr. G. J. Gislason, of Grand Forks, N. D., who has been in Europe for the past year doing post-graduate work on the eye, ear, nose, and throat, is expected home next week.

Dr. W. S. Wood, of Blooming Prairie, has located in Albert Lea, and will confine his practice to eye, ear, nose and throat work. Dr. Wood has just finished an extended course in his specialty at Berlin.

Dr. W. P. O'Malley, of Elkhorn, Wis., has located in Crookston. Before beginning his work in Crookston he will do post-graduate work in New York. Dr. O'Malley is a graduate of the State University, class of '02.

Dr. Arthur J. Gillette, of St. Paul, has returned from his wedding trip to Europe. Dr. Gillette was cordially received by a number of European surgeons who knew of his work as an orthopedic surgeon.

Dr. H. W. Barbour has been chosen to manage the city hospital of Edgeley, N. D. The large ward rooms have been changed into private rooms, and the hospital now has twenty-five rooms, and has been completely overhauled.

The summer meeting of the Crow River Medical Association was held at Lake Koronis last month, and a royal entertainment was furnished the guests; but good-fellowship is not put above good papers and discussions at these meetings.

Dr. Mary Blakelidge, of La Grange, Ill., has begun her work as assistant physician in the St. Peter State Hospital. Dr. Mary McMillan, of the hospital, has gone to Spokane to work in the Maria Beard Deaconess Home and Hospital, of that place.

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DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF JULY, 1907

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF JULY, 1907

STATE INSTITUTIONS.	Total Deaths of											
	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Diseases of Children
Fergus Falls, Hospital for Insane.....	7	1	..	..	..	..	..	..	..	..	..	..
Rochester, Hospital for Insane.....	6	..	..	..	..	..	..	..	..	..	..	..
St. Peter, Hospital for Insane.....	4	..	..	..	..	..	..	..	..	..	..	..
Anoka, Asylum.....	1	..	..	..	..	..	..	..	..	..	..	..
Hastings, Asylum.....	1	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Deaf.....	3	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Blind.....	3	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Feeble Minded.....	2	1	..	..	1	..	..	..	..	..	..	..
Owatonna, School for Dependents.....	1	..	..	..	..	..	..	..	..	..	..	..
Stillwater, State Prison.....	1	..	..	..	..	..	..	..	..	..	..	..
St. Cloud, State Reformatory.....	1	..	..	..	..	..	..	..	..	..	..	..
Red Wing, State Training School.....	1	..	..	..	..	..	..	..	..	..	..	..
Minneapolis, Soldiers' Home.....	4	..	..	..	..	..	..	..	..	..	..	..
Totals.....	27	3	..	..	1	..	..	..	..	..	..	1

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,500 OR UPWARDS
FOR THE MONTH OF JULY, 1907

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Albert Lea.....	4,500	5,657	33	1													
Anoka.....	3,769	4,053	22														
Austin.....	5,474	6,489	7	1													
Barnesville.....	1,326	1,566	0														
Bemidji.....	2,183	3,800	0														
Blue Earth.....	2,900	2,364	0														
Brainerd.....	7,524	8,111	7														
Chaska.....	2,165	2,085	0														
Chatfield.....	1,426	1,300	*														
Cloquet.....	3,074	6,117	*														
Crookston.....	5,359	6,794	9	1		1		2									
Detroit.....	2,060	2,149	0														
Duluth.....	52,968	64,942	73	9		7		4	1			1				4	3
E. Grand Forks.....	2,077	2,489	2														
Ely.....	3,712	4,045	7	3													
Eveleth.....	2,752	5,332	2					2									
Faribault.....	7,868	8,279	4	1													
Fairmont.....	3,440	2,955	0														
Fergus Falls.....	6,072	6,692	3			1											
Granite Falls.....	1,214	1,340	0														
Hastings.....	3,811	3,810	3														
Hutchinson.....	2,495	2,489	5														
Jordan.....	1,270	1,311	*														
Lake City.....	2,744	2,877	3														
Litchfield.....	2,280	2,415	2														1
Little Falls.....	5,774	5,856	6	1													
Luverne.....	2,223	2,272	2														1
Le Sueur.....	1,937	1,842	2														
Madison.....	1,336	1,604	3														
Mankato.....	10,559	10,996	15	2													
Marshall.....	2,088	2,243	0														
Meirose.....	1,768	2,151	*														
Minneapolis.....	202,718	261,974	190	24	4	8	1	1				2	1	4	6	2	14
Montgomery.....	979	1,281	1														
Montevideo.....	2,146	2,595	0														
Moorhead.....	3,730	4,794	5			1											
Morris.....	1,934	2,003	*														
New Prague.....	1,228	1,419	0														
New Ulm.....	5,403	5,720	6	1													
Northfield.....	3,210	3,438	7														
Ortonville.....	1,247	1,612	0														
Owatonna.....	5,561	5,651	6	1													1
Pipestone.....	2,536	2,885	*														
Red Lake Falls.....	1,885	1,797	1														
Red Wing.....	7,525	8,149	4					1									
Redwood Falls.....	1,661	1,806	0														
Renville.....	1,075	1,229	0														
Rochester.....	6,843	7,233	7														
Rushford.....	1,100	1,133	3														
St. Charles.....	1,304	1,238	2														2
St. Cloud.....	8,663	9,422	7		1							1					
St. James.....	2,607	2,320	0														
St. Paul.....	163,632	197,323	145	18	6	9		3	1				3	1	7		14
St. Peter.....	4,302	4,514	2	1													1
Sauk Centre.....	2,220	2,463	1														1
Shakopee.....	2,046	2,069	*														
Sleepy Eye.....	2,046	2,312	0														
So. St. Paul.....	2,322	3,458	5			1											
Stillwater.....	12,318	12,435	7	1													
Thief River Falls.....	1,819	3,502	1														
Tower.....	1,366	1,340	*														
Tracy.....	1,911	2,015	1														
Virginia.....	2,962	6,056	*														
Wabasha.....	2,528	2,619	*														
Warren.....	1,276	1,640	1														
Waseca.....	3,103	2,838	0														
Waterville.....	1,260	1,383	1	1													
West St. Paul.....	1,330	2,100	*														
Willmar.....	3,409	4,440	1	1													
Windom.....	1,944	1,884	2													1	
Winona.....	19,714	20,334	9	1		1											
Worthington.....	2,386	2,276	0														

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF JULY, 1907

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Ada.....	1,253	1,515	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Adrian.....	1,258	1,184	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aitkin.....	1,719	1,896	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Akeley.....		1,636	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Alexandria.....	2,681	3,051	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Appleton.....	1,184	1,321	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Belle Plaine.....	1,121	1,301	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Benson.....	1,525	1,766	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Breckenridge.....	1,282	1,850	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Buffalo.....	1,040	1,124	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Caledonia.....	1,175	1,405	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Canby.....	1,100	1,505	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cannon Falls.....	1,239	1,460	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cass Lake.....	546	1,062	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Chisholm.....		4,231	9	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Dawson.....	962	1,056	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delano.....	967	1,023	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fosston.....	864	1,000	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Frazee.....	1,000	1,146	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glencoe.....	1,780	1,805	3	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Glenwood.....	1,116	1,718	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Graceville.....	856	1,032	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grand Rapids.....	1,428	2,055	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Hallock.....	805	1,014	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hibbing.....	2,481	6,566	15	1	1	..	..	..	2	..	..	..	..	..	..	..	..
Jackson.....	1,756	1,776	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Janesville.....	1,254	1,205	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kasson.....	1,112	1,049	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kenyon.....	1,202	1,252	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Crystal.....	1,215	1,231	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lanesboro.....	1,102	1,041	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Long Prairie.....	1,385	1,256	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madelia.....	1,272	1,290	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Milaca.....	1,204	1,319	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Mountain Lake.....	959	1,063	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Mankato.....	939	1,129	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North St. Paul.....	1,110	1,400	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Olivia.....	970	1,019	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Osakis.....	917	1,056	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Park Rapids.....	1,313	1,719	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Pelican Rapids.....	1,033	1,095	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Perham.....	1,182	1,366	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pine City.....	993	1,092	4	1	..	..	..	1	..	..	..	..	..	..	..	..	..
Plainview.....	1,038	1,140	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Preston.....	1,278	1,320	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Princeton.....	1,319	1,701	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rush City.....	987	1,041	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rushford.....	1,062	1,040	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Louis Park.....	1,325	1,491	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sandstone.....	1,189	1,589	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Saulk Rapids.....	1,391	1,552	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scanlon.....		1,122	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Stillwater.....	1,422	1,572	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Springfield.....	1,511	1,546	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Spring Valley.....	1,770	1,573	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Staples.....	1,504	2,163	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Two Harbors.....	3,278	4,402	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wadena.....	1,520	1,868	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Wells.....	2,017	1,814	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Minneapolis.....	2,250	2,530	3	2	..	..	1	..	..	..	..	..	..	..	..	..	..
Wheaton.....	1,132	1,346	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
White Bear Lake.....	1,288	1,724	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winnepago City.....	1,816	1,553	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winthrop.....	813	1,031	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Zumbrota.....	1,119	1,129	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
State Institutions.....			27	3	..	..	..	1	..	..	..	..	..	..	..	..	1
Other parts of State.....	1,012,328	1,085,886	337	26	1	12	..	7	1	..	..	1	1	2	3	..	4
Total for State.....	1,751,395	1,979,658	1001	103	13	44	3	23	6	..	..	5	5	14	21	3	44

Still births and premature births, 81 (not included in above totals).

*No report received. Health officer not doing his duty

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SYPHILIS*

BY BURNSIDE FOSTER, M. D.

ST. PAUL

The importance of syphilis to every physician, be he general practitioner or specialist in whatever department, makes its discussion a timely one at all times, even though there is nothing particularly new to offer in regard either to its etiology, diagnosis, or treatment.

For many years it has been confidently believed that syphilis was a microbial disease, and I believe that there has not been a year of the past thirty-five years in which some laboratory worker has not found, and triumphantly heralded to the world, a specific organism which he and his followers have confidently believed to be the specific organism of the disease. It would be a waste of time to enumerate all of these, but I shall simply mention a few, some of which you have doubtless heard about. There was the coccobacillus of Klebs, the corpuscles of Löffler, the mycelium of Cutter, the micrococcus of Aufrecht and Ohrsow, the coccus of Birch-Hirschfeld and Perschal, the micrococcus of Kabner and Newman, the bacillus of Lustgarten, the streptobacillus of von Neissen, the bacillus of De Lille and Julien, that of Joseph and Piorkowski, and the protozoa of Schüller. These are but a few of the many so-called specific organisms of syphilis which have occupied the stage for a brief space, each having its little band of supporters and clacuers, and each being in due course superseded by others which, in their time, were to be laid aside and forgotten.

The latest candidate for the long-sought honor, and the one which has held the boards the longest, is the organism described by Schaudinn as the spirocheta pallida and later renamed the treponema pallidum.

That this organism actually exists in syphilitic lesions, primary, secondary, and tertiary, there can be no doubt, and I believe that the majority of the best students of the subject have accepted it as the specific organism of syphilis.

It is an extremely difficult organism to demonstrate with any technic yet devised, and it is doubtful whether it has yet been cultivated in any artificial medium, although Leriaux and Geets of Brussels and some others believe that they have done so. The practical value of the discovery of the actual specific microorganism of syphilis lies in the ability to make, by its demonstration in a doubtful lesion, a positive diagnosis of the disease, such as can be done in gonorrhea, tuberculosis, and diphtheria by their specific organisms. This, as yet, is not possible in syphilis, although it is probable that a more accurate technic and better staining methods will be devised which will make it easier to find. It would not, however, be surprising to me to hear, at any time, of the finding of still another organism which answers more nearly the requirements of the specific organism of syphilis than does the treponema pallidum.

In the diagnosis of syphilis we must still depend chiefly upon the clinical appearances, the history of the case, and the careful study of the individual; and our success will depend largely upon our familiarity with the numerous other diseases, particularly the many dermatoses, which resemble syphilis, and upon our ability to exclude them in a given case. The wisest, the most expert among us must frequently be obliged to defer his diagnosis until the outcome of the case makes it manifest. The therapeutic diagnosis, which, I cannot too strongly insist, should never

*Read before the Minnesota State Medical Association, August 13 and 14, 1907.

be attempted for a suspected primary lesion, is often of the very greatest value and importance in the later stages of the disease. Too much stress is, I think, often placed upon the importance of enlarged glands in the diagnosis of syphilis. In differentiating the primary lesion from chancroid, enlarged glands are of importance, but their presence is by no means pathognomonic. A previously existing inflammatory lesion on one of the extremities may have left the nearest group of lymphatic glands—or some of them—enlarged and indurated. In late syphilitic lesions the presence or absence of enlarged glands is of quite little significance. There may be an inflammatory adenopathy in the vicinity of ulcerative tertiary lesions, but this is in no way different from the similar condition resulting from inflammatory lesions due to other causes. We cannot, then, lay down any positive rules for the diagnosis of this disease; we must be guided by the history, the chronology of the symptoms, the clinical appearances, our knowledge of other diseases producing similar lesions, and in some cases by the effect of treatment.

Concerning the treatment of syphilis there is nothing new, and men of equally wide experience differ radically in the details of their methods of treatment. Speaking for myself, I still prefer to begin with the inunction method when dealing with patients of intelligence who are willing and are so circumstanced that they are able to carry out the details of this treatment. In treating marital syphilis where it is necessary to conceal the disease from the husband or wife, and under other circumstances where the patient is not free from observation at the times when the inunctions must be made, this method is, of course, not practical. In giving mercury internally the three most important preparations are corrosive sublimate, potiodide, and mercury with chalk. I always begin, as I learned to do from Jonathan Hutchinson, with *hydrarg. cum creta*. I believe that there is no preparation of mercury which will be found so generally acceptable to the majority of persons. It can be taken for long periods at a time without producing either salivation or diarrhea, and it is certainly efficacious. Three or four grains a day will usually be found sufficient, and often no other preparation will be necessary during the first year of the disease; in most cases, however, it will be found necessary to alternate with the other preparations.

I do not ordinarily use iodide of potassium during the first year, although there are some cases of precocious syphilis where gummata and deep-seated lesions appear during the first few months of the disease, which demand the administration of this drug. It is especially in these cases, too, that I use mercury hypodermically. For the hypodermic administration of mercury I prefer the

bichloride mixed with carbolic acid, in the proportion of eight grains of each to the ounce of distilled water. Ten minims of this mixture may be given hypodermically, using a platinum needle and making a deep injection. This is not very painful, and I have never had an abscess from its use. The insoluble mercurials I never use, and my recollections of the Austrian clinics where they were, and still are, in common use are not such as to make me care to use them.

In regard to the prognosis of syphilis, I believe that in the majority of cases it is good under efficient treatment. While it is true that there is good reason to believe that syphilis may be a self-limited disease, and that there have been many cases which have run their course without treatment of any kind and the patients have recovered and heard no more of the disease, we must remember that we have no means of telling which cases will run this favorable course, so I do not, from my experience, feel justified in adopting the so-called expectant method of treatment. I treat my cases for two full years, and during the third year give an occasional brief course of treatment, and demand a full year of freedom from all symptoms before I pronounce them cured. Even then I do not speak positively, but I tell the patient that the chances are that he will never hear from the disease again and that he is safe to marry and have children, but that he may, later in life, have symptoms or lesions due to syphilis which will, in all probability, yield readily to treatment. For a long time it was believed and taught that the late, the so-called tertiary, lesions of syphilis were not contagious, and so far as clinical evidence goes they are not, for I have never known of a case, nor have I seen any report of a case, where contagion has resulted from a late (tertiary) syphilitic lesion. The bacteriologists, however, have found the spirocheta in these lesions, and if we admit this organism as the specific organism of the disease, we must admit the possibility of contagion from any lesion where this organism is found. This point is one concerning which it is not possible to speak positively.

In regard to the management of our syphilitic patients, there are one or two points upon which I wish to dwell, points not sufficiently dwelt upon in the text-books and which my personal experience has taught me are not sufficiently appreciated by physicians in general. First, the importance of keeping accurate record of cases. It is an important detail of practice, by no means always attended to, to keep accurate case-records; particularly important is this, it seems to me, in cases of syphilis. Syphilitic patients are proverbially wanderers and irregular in their calls upon the physician, and it is of great importance to be able to refer back to the previous visit, or, where the patient has chosen to go to another physician,

it may be of great importance to be able to furnish that other physician with information regarding the early history of the case. Personally, I prefer the card-index system for record-keeping, and I commend it for its convenience and simplicity. A very few words will often suffice to record the essential facts of a case, but these few words may be, sometimes, of vast importance to the welfare of a patient. Another point which I wish to emphasize is the importance of impressing upon the patient the danger of contagion to others, by other means than sexual intercourse. Every physician knows that all of the mucous-membrane lesions of syphilis are contagious and that the blood of syphilitics is contagious, and yet I have been many times amazed when patients who have passed from other hands to mine have told me that their former physicians have never warned them of the dangers of contagion and that they did not know that they could convey the disease to another person in any other way than sexual contact.

My method is, when consulted by a syphilitic in the early stage of his disease, after having taken a careful history, to tell the patient the nature of his trouble, the dangers of contagion to those with whom, either in his family or business life, he comes into close relations, and the probable duration of the active stage of the disease. I insist that there must be two full years of continuous treatment and one year of occasional or intermittent treatment, and that unless he is prepared to accept this program and to put himself in my hands for that length of time, I am unwilling to accept the responsibility of the case. Of course, many patients will make promises, which they will not keep, but I believe that by making the patient understand the time necessary for treatment, in the beginning, the physician will succeed in more cases, in keeping the patient under his observation, than if he does not do so; and having told the patient what he has to expect and what he must do in order to have the best chance of recovery, the physician has done his duty, and the patient who gives up treatment when the visible symptoms have disappeared, as many will do, does so on his own responsibility. Since we have not, as yet, any positive diagnostic method for determining the exact time when syphilis ceases to be communicable and when it ceases to be inheritable, we must fix arbitrary periods, and I believe it will be generally safe to say that four years after the initial lesion the contagious period is over and that five years after the initial lesion the patient may safely marry and beget or bear children—provided, a sufficient course of treatment has been carried out. I am aware that mucous patches have been seen at a much later period of the disease than this, and that these moist lesions are contagious, but in the vast majority of such cases the treatment has been irregular or inefficient. I base these

statements on a personal experience of twenty years, during which time I have carried a great many patients through the entire course of their disease, have seen them marry after five years, and have never known a case of contagion or of inheritance of the disease where the treatment has been faithfully carried out. I have seen gummata and other late lesions in some of my patients who have been thoroughly treated, and in quite a number of the cases the patients had married and had healthy children, between the active stage of the disease and the appearance of the late lesions, but neither wife nor children have suffered. Such experiences make me believe that, while the statement, "once a syphilitic always a syphilitic," may be true, the disease loses its communicability and its inheritability in time and after sufficient treatment. I state this as my belief in the face of the experience of competent bacteriologists who have found the spirocheta in late lesions of the disease. Clinical evidence is, to my mind, often more valuable than bacteriological.

Much has been written of late on the subject of the prophylaxis of syphilis and of the venereal diseases in general, and while I cannot agree with those who would place these diseases, where they theoretically belong, among the notifiable contagious diseases—for practical reasons, which I think are apparent to most of you, I do agree that the general dissemination of information among all classes, but particularly among young men and women, concerning venereal diseases and how they are contracted, would go far towards diminishing their prevalence. In several of the larger cities of this country societies have been formed having for their object the discussion of how to diminish these diseases, and, among the many means which have been suggested, the one which has been universally agreed upon as the most important is education. The veil of mystery and secrecy which has hitherto hidden the whole subject of venereal diseases, and, for that matter, the whole subject of sexual physiology, must be lifted, and the sexual function must be explained in a proper manner to young people of both sexes and the dangers of its abuse explained to them. A generation of such education would bring about a great diminution in the prevalence of venereal diseases, although their absolute extinction is not compatible with the frailty of human nature.

DISCUSSION

DR. J. M. ARMSTRONG (St. Paul): I have listened with interest to Dr. Foster's paper in which he covers briefly almost the entire field of syphilis. There are a few things, however, about which I wish to speak. The doctor enumerated a number of germs or organisms which have been described as the etiological factors of syphilis. I endeavored to find out how many had been described

when Schaudinn first read his paper before the Berlin Medical Society. In that meeting the statement was made by Thesing that no less than one hundred and twenty-five factors in the etiology of syphilis had already been described. None of these organisms have been really accepted by the profession, except possibly the one named by Schaudinn, known as the *treponema*, and it was supposed by Schaudinn to be an animal organism instead of bacterial. This organism has met with general approval almost since Schaudinn's statement was made public. Shortly afterwards reports of a confirmatory nature came in from all over Europe and America, and I think this organism is generally accepted as the etiologic factor in syphilis. Two men, Saling and Schultze, refuse to accept this organism for which we have so long been looking. It seems they have failed to take into consideration that when Schaudinn discovered this organism it was difficult to find and was first demonstrated in the unstained living state. In order to demonstrate it successfully it was necessary to first find a staining method for it. The objections made by Saling and Schultze are objections on a theoretical ground, not an objection to the organism, but rather to the technic of staining. They claimed the organism did not stain uniformly in smears and sections. This objection has now been overcome, by staining the micro-organism in smear preparations with silver nitrate, and Schmorl has recently been able to stain it successfully with aniline dye in sections. In addition to this Beer has been able to keep the organism alive for over three weeks in a normal saline solution. Of course, the organism has never been cultivated, but it seems to me that would not militate against our accepting it. As a matter of fact Leuriaux and Geets made some investigation of the structure of this organism in culture, but it was not satisfactory, and it is a question whether they had anything at all in their culture.

DR. SCHWARTZ (Duluth): I was very much interested in Dr. Foster's paper. It reminded me, in speaking of the different terms given to the supposed microorganisms of syphilis, of what Dr. Hyde of Chicago told a friend of mine who came over from Europe. He said: "It is a slow month in dermatology when they do not discover a new one." No new germ has been taken much into consideration as yet, by most dermatologists.

I should like to have heard Dr. Foster say more about the congenital forms of syphilis. I think the general practitioner is confronted with that condition a great deal. I was looking over Dr. Miller's

article, and I think it was in the report of a German clinic they had evidence that most of the findings came within the first month, and that twenty-five per cent of the lesions came in the second month. It is sometimes a difficult matter for the general practitioner to say when he has a congenital case of syphilis. The symptoms commonly found and occurring in frequency in the order mentioned, are maramus, caryza, snuffles. Lesions are maculas, papules, pustules, bullae and furuncles being present at the same or different times of the disease. The moist papule and bullae are by far the most frequent. In a number of cases of syphilis the moist papule and bullae have shown lesions, and papules about the mouth or anus are very common symptoms, and I know even among the old dermatologists it is often a difficult matter to diagnose a congenital lesion and be able to diagnose it as genuine syphilis.

Regarding treatment: Of course, there is a varied opinion about that. Hyde of Chicago uses protoiodide by mouth and is strongly opposed to the injection method. Schmidt of Chicago does more of that kind of work than any one else in the West, and he uses the injection method. I have watched him in the Alexian Brothers' Hospital, and I know he has nice results.

DR. FOSTER (Essayist): I have not much to add except a word in regard to the injection hypodermically of mercury. We hear a great deal about the treatment of syphilis by the hypodermic injection of mercury. The injection of mercury is both sensible and physiologic. Fournier in his last work on syphilis relates that he asked a large number of his colleagues, whether if they had the misfortune to contract syphilis they would prefer treatment by the mouth or hypodermically. The answer in both cases was, by the mouth. I consider that a good answer to the criticism of those who say that taking mercury internally is not sufficient. Physicians of experience, who would prefer to be treated by mercury internally, certainly must believe this is an efficient method of treatment. Personally, I do not use the hypodermic method of treatment, except in certain special cases. The first objection is that it is painful to the patient, and the second is that it is not so easy to give a persistent course of treatment except by having the patient under constant supervision in a hospital. Personally, I do not use the hypodermic injection except in those cases of resistant syphilis where I am not satisfied that the patient is improving under other methods.

STATE QUARANTINE*

By H. M. BRACKEN, M. D.

Secretary and Executive Officer of the Minnesota State Board of Health

ST. PAUL

The title of this paper, chosen for me, is intended, presumably, to refer to the methods of quarantine followed throughout the state under the guidance, advice, or authority of the State Board of Health.

Quarantine is an old-time method of attempting

to prevent the spread of disease. It is an evidence of helplessness, often of ignorance. As soon as the true cause of any disease is recognized, attention is directed rather to its prevention in the first instance than to its suppression after it appears, by means of a separation through quarantine of the infected from the uninfected. This is well illustrated by a change

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of procedure that has recently taken place in dealing with yellow fever. Before the means of transmission of this disease was known the quarantine methods used in attempts to control its spread were most rigid. Now, when the world knows that only a mosquito can transfer yellow fever from an infected individual to a healthy person, quarantine is practically abandoned and attention directed to keeping mosquitoes (a) away from the patients, (b) away from the healthy individuals, and (c) to the destruction of mosquitoes that are capable of carrying the infection. The last point is first rather than third in importance.

Another disease from which quarantine can safely be withdrawn is smallpox. We do not know how this disease is transferred from one person to another, and in this respect there is a difference between yellow fever and smallpox. But we have in vaccination as thorough means of controlling smallpox as we have in the destruction of mosquitoes for the control of yellow fever. In neither of these diseases have we as yet convincing evidence as to its true cause, but we know how to prevent infection in both instances. With such knowledge, quarantine is no longer necessary for either disease.

To make quarantine effective *all diseased individuals* must be separated from healthy individuals. The only practical method by which this can be carried out is through the isolation hospital. It is only the larger cities that are supplied with such institutions. As a consequence, the smaller cities, villages, and country districts are without any place in which to carry on a reasonable quarantine. Even in the cities provided with isolation hospitals the quarantine is rarely perfect, for in dealing with all quarantinable diseases there is a certain percentage of mild or unrecognized cases which do not come under quarantine regulations, and these are as capable of spreading disease as are the more severe and easily recognized cases, which are transferred to the isolation hospitals.

Again, a person that is well to-day may show evidence of disease to-morrow. Under quarantine regulations such an individual would receive no notice to-day, and, being left with the uninfected until to-morrow, might thus spread the disease which has just made its appearance. Because of this condition of affairs the process of eliminating the infected from the uninfected may have to be repeated many times in large families, lodging-houses, public institutions, etc., before the final separation of the two is complete.

It is easy to recognize the typical cases in dealing with any disease. It is as easy to pass by the atypical cases, and thus spread infection in spite of the most rigid quarantine of the typical cases.

Immunity is ever thwarting quarantine. This is well illustrated in the case of diphtheria. We know that many healthy individuals carry the germs of this disease in nose or throat, or in both. We quarantine rigidly the clinical cases of diphtheria, but rarely restrain the non-clinical but, nevertheless, dangerous carriers of the germs.

Another group of quarantine-evaders are those individuals who, having had an infectious disease and apparently having recovered, are still the host for the infection. In spite of this fact, all evidence of disease having disappeared, these patients are released from quarantine and thus spread infection to others. This has been thoroughly demonstrated in dealing with diphtheria, scarlet fever, typhoid fever, etc. The new cases arising from such infection are known as "return" cases. An excellent illustration of such infection was recently given by an eastern physician who reported the case of a cook, apparently well, but who was in fact the host for the typhoid fever bacillus. Shifting from one employer to another, she was the cause of seven outbreaks of typhoid fever (26 cases) before it was discovered that she was the source of the infection.

The quarantine of the past was against only those forms of disease attended by a high mortality and covered under the general term of "plague," viz., smallpox, cholera, yellow fever, true plague, etc. Later, quarantine methods were applied to other diseases, such as scarlet fever, measles, diphtheria, etc. With our present knowledge of facts, the question can reasonably be raised as to why we should quarantine diphtheria and not quarantine pneumonia, tuberculosis, and typhoid fever. We have for diphtheria an immunizing agent in the diphtheritic antitoxin. We cannot establish a long immunity with this agent, but we can both protect against and cure the disease with antitoxin; and I believe that a more general use of this remedy without quarantine would do more good than our present methods of quarantine. I believe that every case of diphtheria and every person who has been in close contact with such a case, should be given either a curative or a prophylactic dose of antitoxin, as the case may demand.

Of the so-called quarantinable diseases in this part of the country (smallpox, scarlet fever, and diphtheria), it would seem that scarlet fever is the only one in which there is the least excuse for the continuance of quarantine, and this for the reason that we have as yet no known means of preventing or antagonizing the spread of this disease. Even with scarlet fever it is an open question as to how much good is accomplished by quarantine. I venture to say that very few of those before me have not had scarlet fever, and this in spite of quarantine.

With this prelude, let us now consider, briefly, state quarantine.

Smallpox appeared in epidemic form in Minnesota early in 1899. It has prevailed ever since, with a total of at least fifty thousand (50,000) cases during the last nine years. Between January 1, 1899, and August 1, 1907, 31,201 cases of, and 220 deaths from, smallpox were reported in Minnesota. During all this time attempts have been made generally to carry out a rigid quarantine against this disease, as shown by the following state regulations:

11. The local health officer having knowledge of, or having reason to suspect, the existence of smallpox, shall investigate, if necessary, and shall at once place under quarantine, all smallpox patients and those having the care of or coming in contact with such patients, except the attending physician, health officer, sanitary inspector, or, in case of death, a licensed embalmer.

The quarantine period for smallpox shall not be less than four weeks and may be longer. Quarantine must not be released until the health officer has satisfied himself that there is no further danger of infection from the patient. The quarantine must not be raised until four weeks or more, as the case may be, after the appearance of the last case in such a family or household.

12. The local health officer shall keep all unvaccinated people known to have been exposed to a case of smallpox under strict supervision for a period of three weeks from the date of last exposure. Non-vaccinated individuals in a house quarantined for smallpox shall be kept under quarantine for a period of two weeks beyond that required for the last smallpox case, and after the disinfection of the house.

13. Individuals found in a house with a smallpox patient who show evidence of a recent successful vaccination, or will submit to vaccination within forty-eight (48) hours after first exposure, may be released from quarantine after a thorough disinfection of their person and clothing. Such individuals must not be permitted to return to the quarantined house.

14. The apartments occupied by a smallpox patient shall be deemed infected, and when vacated by death or removal of the patient from quarantine, shall with their contents be thoroughly disinfected under the supervision of the local health officer. All persons having occupied such apartments during the quarantine period must have their clothing disinfected and take a disinfecting bath before being released from quarantine. All disinfection prescribed in this regulation shall be a part of the control of the disease.

15. No milk, butter, or other dairy product shall be sold or given to any party, or delivered at any creamery or butter-factory, from a house quarantined because of the presence of smallpox therein.

In spite of these efforts to control the disease by means of quarantine, smallpox still prevails in Minnesota. Wherever it has prevailed it has been brought under control only after the fertile soil for its development has been exhausted either by the disease itself or by vaccination.

Diphtheria has changed but little, if at all, as to the number of cases, although the regulations for its control by means of quarantine have been as follows:

25. The local health officer having knowledge of, or having reason to suspect, the existence of diphtheria

shall, personally or through the attending physician, immediately secure a culture from the nose and throat of the suspected individual and submit the same to the laboratory of the State Board of Health for examination. A suspicious case must be quarantined as diphtheria until the diagnosis is confirmed or denied by the laboratory findings. An undoubted clinical case of diphtheria must be quarantined even with negative findings from the first laboratory examination. Cultures may be submitted to municipal or private laboratories if the same have the indorsement of the Minnesota State Board of Health.

26. The quarantine of diphtheria in cities and villages, and for country districts within two miles of a city or village, shall be continued until a negative report has been made from the laboratory of the Minnesota State Board of Health or a laboratory approved by said Board, on cultures taken by a physician from nose and throat of the person quarantined, followed by a negative report on cultures taken from nose and throat not less than twenty-four (24) hours thereafter, so as to constitute two successive reports on cultures from both nose and throat. * * *

27. The quarantine of diphtheria in public institutions where the population is resident shall be governed entirely by laboratory examinations. Immediately after the appearance of diphtheria in an institution the local health officer shall notify the secretary of the State Board of Health, who shall supply facilities for taking cultures, if necessary, from all residents of the institution. All individuals, whether sick or well, who are found in the institution harboring diphtheria bacilli, shall be quarantined until a negative report is made upon both nose and throat cultures. They shall then be properly cleansed and disinfected and placed in other detention quarters until two later and successive negative reports on double examinations of nose and throat are made, whereupon they may be released after proper disinfection.

29. The apartments occupied by a diphtheria patient shall be deemed infected, and when vacated by death or removal of the patient shall, together with their contents, be thoroughly disinfected under the supervision of the local health officer. All persons having occupied such apartments during the quarantine period must have their clothing disinfected and take a disinfecting bath before being released from quarantine. All disinfection described in this regulation shall be a part of the control of the disease.

30. No milk, butter or other dairy product shall be sold or given to any party, or delivered to any creamery or butter-factory, from a house quarantined because of the presence of diphtheria therein.

I am aware that these regulations are often not lived up to with the known clinical cases; but this is simply because in many instances the physician and the health officer are not willing to enforce a regulation against a *known* case when it is easily demonstrable that there are plenty of unquarantined sources of danger. The mortality from diphtheria has greatly diminished, but this has been due to antitoxin and not to quarantine.

There is no material change in the amount of scarlet fever throughout the state in spite of our quarantine regulations, which read as follows:

19. The local health officer having knowledge of, or having reason to suspect, the existence of scarlet fever, shall investigate, if necessary, and shall at once

place under quarantine, all scarlet fever patients and those having the care of or coming in contact with such patients, except the attending physician, health officer, sanitary inspector, or, in case of death, a licensed embalmer.

The quarantine period for scarlet fever shall not be less than three weeks and may be longer. Quarantine must not be released until the health officer has satisfied himself that desquamation (or peeling) is completed, and that there is no further danger of infection from the patient. The quarantine must not be raised until three weeks or more, as the case may be, after the appearance of the last case in such family or household.

20. The apartments occupied by a scarlet fever patient shall be deemed infected, and when vacated by death or removal of the patient, shall, together with their contents, be thoroughly disinfected under the supervision of the local health officer. All persons having occupied such apartments during the quarantine period must have their clothing disinfected and take a disinfecting bath before being released from quarantine. All disinfection prescribed in this regulation shall be a part of the control of the disease.

21. No milk, butter, or other dairy product shall be sold or given to any party, or delivered at any creamery or butter-factory, from a house quarantined because of the presence of scarlet fever therein.

With these facts before you, the question may reasonably be asked, What is to be the future of quarantine? A definite answer to this question cannot be given at the present time. Quarantine, to be effective, must be of the shotgun type; and even this fails. Undoubtedly the present methods of quarantine should be modified, and medical men should share in the study of any proposed change. This society of representative medical men should appoint a committee to consider these questions and to confer with the State Board of Health. I am sure that many leading sanitarians do not sympathize with present quarantine methods, but sanitarians cannot give advice in such reform methods until public sentiment is educated to the point of accepting it. The physician is the great moulder of public sentiment in matters pertaining to disease. Your State Board of Health has recently made changes in its regulations relative to smallpox, to read as follows:

11. The local health officer having knowledge of, or having reason to suspect, the existence of smallpox shall investigate, and at once place upon the house where smallpox exists, a sign setting forth the facts. This sign is to serve only as a warning to those who may wish to avoid the house, and not as an indication of quarantine. When the attending physician considers a smallpox patient as having recovered he shall report the fact in writing to the local health officer, who shall thereupon remove the warning card from the house. The patient must not leave the house until after the removal of the warning card.

12. The apartments occupied by a smallpox patient shall be deemed infected, and when vacated by death or removal of the patient shall, together with their contents, be thoroughly disinfected under the supervision of the local health officer.

13. Every physician shall immediately report to the local health officer, in writing, the name of every smallpox patient under his care, the state of his or her dis-

ease, and his or her place of residence. A report must be made for each case as it occurs in a family or household.

14. Every physician shall report, in writing, to the local health officer the death of any smallpox patient under his care within twelve (12) hours thereafter.

15. The local health officer of any city, village, or township, must report immediately to the secretary of the Minnesota State Board of Health all cases of smallpox occurring within his jurisdiction.

While the sentiment of the Board, when these changes were first proposed, was favorable to their reasonableness, it was a question which the Board considered very seriously as to whether the people, or even the medical profession, would favor such a radical change. It was for this reason in part that the date set for changing to the new regulations was postponed until January 1, 1898. It is gratifying to the Board to learn that the general sentiment of the profession, and of the people throughout the state, as shown in the newspapers of the state, seems to be in favor of the change in methods of dealing with smallpox. The new regulations are certainly reasonable, practicable, and economical.

In Minnesota we now have warning cards for measles and typhoid fever. I am not at all sure that such a system extended to scarlet fever and diphtheria would not accomplish more good than our present methods of attempted rigid quarantine.

The ideal method of dealing with so-called quarantinable diseases is the immediate removal of the diseased individual to a specially provided hospital (not a pest-house). This is becoming quite a general custom in the larger cities due to a great extent to the fact that their inhabitants will not tolerate rigid house quarantine. If this is practicable for the larger cities, it is also practicable and economical for the smaller cities, villages, and country districts. There should be sufficient isolation-hospital accommodation, in the thickly settled portion of the state at least, to take care of all communicable diseases. It is now a generally recognized fact that to get the best results in surgical cases the patients must go to a hospital for surgical treatment. The old dread of hospitals that prevailed to a great extent among the people of the past, is dying out, and wisely so. The modern well-equipped hospitals, with their trained nurses, will give far better results in the treatment of communicable diseases than will the home care of this same group of cases. It is now a well-recognized fact that tuberculosis in a majority of instances can be better cared for in an institution than at home. If all typhoid fever cases were treated in hospitals this disease would be rapidly reduced, and the spread of infection would then be greatly diminished, for trained nurses know how to destroy the infectious agent and to prevent contact

cases. If this is true of tuberculosis and of typhoid fever it is also true of smallpox, scarlet fever, diphtheria, and other similar diseases. It is for medical men to aid in bringing about these much needed reforms.

DISCUSSION

DR. E. L. TUOHY (Duluth)—The doctor's paper has brought out many very interesting points relative to quarantine. He leaves the inference with us that the proper use of vaccine, for instance, is all that is necessary to effectually stamp out smallpox. And he further suggests that the methods in vogue in handling many other contagious diseases do not always do what they are supposed to accomplish. I want to leave with you this thought: When a person contracts a contagious disease in the community in which he resides, that community, to some extent at least, is responsible for his infection. If the time ever comes when a man who lives in a city supplied with contaminated water, can sue such city for damages there won't be so many infected water supplies.

When a patient has smallpox or diphtheria he is not the only one interested. I suggested above that the community gave it to him; further, the community is most interested in protecting itself against him, and since the community has such vital interests, it should be willing to provide at least part of the expense.

The time must come when Minnesota, like many of the eastern states, will provide both free vaccine and antitoxin, and pressure should be brought to bear upon the next legislature to provide funds for that purpose.

DR. C. H. HUNTER (Minneapolis): Coming up from Minneapolis with a gentleman connected with the lumber interests here in Duluth, he remarked that while Dr. Bracken might be a good fellow, he had carried out some regulations of the law which had cost his firm about twenty-five thousand dollars, referring to his methods of quarantine. He said a camp is quarantined and everybody comes into the camp, but nobody is allowed to go out. Somebody has to be employed to feed those fellows, whether well or sick. I do not know whether that has been the experience of other companies, but it is advisable that this Association adopt Dr. Bracken's suggestion and study the matter thoroughly, and get an expression of opinion from us as to our final conclusion. If we ourselves have this information and are educated properly, we can transfer that information to the community and thus supply them with the very best knowledge, and if this is the proper time I would suggest that a committee be appointed to follow out the suggestions contained in Dr. Bracken's paper.

(A committee for this purpose was provided for in a resolution introduced by Dr. Hunter.—THE EDITOR.)

DR. F. W. DIMMITT (Red Wing): I rise to state that in my opinion antitoxin for this purpose is the cheapest medicine in the world. I wish to cite one instance in my experience which proves, in my mind, the truth of this statement. A year or two ago I was called two or three miles into the country to see a child sick with croup three or four days. The family thought it was an ordinary case of croup. There were nine children in the family, and they had allowed the case to run along until I was called, when I found it to be a case of true laryngeal diphtheria. On my first visit I gave an unfavorable prognosis, but I administered 2,000 units of antitoxin, repeating the dose in 12 or 15 hours. This case recovered. In two or three days two others of the family became affected and had throat patches. I gave each of them a thousand units of antitoxin and that stopped it. Then the neighbors became interested (this was a poor family). The cheapest way would be to give each of the remaining children preventive doses of antitoxin, and they told me to go ahead and do it.

I gave each of the others five hundred units. The bill amounted to thirty-five dollars for the whole outfit. I think the antitoxin cuts the doctor's bill in two, or at any rate makes it less. Herein I differ with the statement made by the doctor from Duluth, that the price of antitoxin makes its use prohibitive.

DR. O. E. LINJER (Minneapolis): I just want to call attention to one thing in connection with vaccination, and that is that the vaccination we use in this country differs entirely in result from the vaccination used in all other countries. What I am getting at is that you can tell by the scar whether a person has been vaccinated in America or some other country. As to the result of the vaccination by the vaccine produced in this country, I believe it is fairly good at least. The secretary of the State Board will know that better than I, but the scar is not dependable. Of late I believe the government is inspecting the different serums, and I presume it is inspecting the vaccine along with the rest. From my observation I believe that virus has in some way deteriorated, that is, in the old country, and in order to get back again to the original vaccine I think as a body of medical men and as a state medical association we ought to get back to the original formula.

DR. J. W. ROBERTSON (Litchfield): With reference to this vaccine and scar: I read a paper several years ago on this subject, and have had considerable experience in vaccinating a whole township. I do not think it is necessary for the prevention of smallpox to have a scar at all: it only indicates that there is some impurity in the vaccine. You can introduce the same vaccine underneath the true skin, and it will produce a scar, yet it will prevent smallpox. If you introduce vaccine under the true skin you get a most hideous scar. I do not think it is necessary that we should have a scar at all in vaccinating. I vaccinated at one time about one hundred cases. I came to one young man in that hall that had a temperature of 105.5°, and he declined vaccination. He was broken out beautifully with smallpox, and he was sitting around with the people who had been vaccinated. I vaccinated one after another, and out of that audience of eighty to one hundred people none had smallpox and none had been vaccinated before. I do not think it is necessary to have a scar in vaccination. I think going back to the old method would be wrong. I believe our vaccine should be as nearly pure as we can get it and not mixed with bacteria.

DR. F. F. WESBROOK (Minneapolis): I think this paper presented by Dr. Bracken is most timely, for it leads again to the demonstration of the fact that we cannot treat, from a public-health point of view, every infectious disease like every other infectious disease. It therefore follows that the most important preliminary matter in a diagnosis, and since this can be made only by the medical profession, which is first in the field, it becomes important that, in the formulation of rules and regulations, tending to check, control or eradicate disease, the physician's advice and assistance and, above all his active interest, be secured. It should not be necessary now to give any warning against these "snot-gun" methods of the past, meaning by this not only the violent methods of enforcing quarantine but a blanket method of insuring protection against spread of all diseases. As a rule, physicians are much more apt to be efficient in the diagnosis and cure of a disease than in its prevention, since for the most part they are called in after the disease has been contracted. It is his business, however, as opportunity offers to try to protect other members of the family and by going still further out of the way, protect the rest of the community. Therefore, it is necessary that he should be fully informed not only in regard to the newer

scientific facts applicable to public health, but he should help in the formulation of practical common sense methods for the protection of the community; which methods must be based upon scientific facts.

Yellow fever, as Dr. Bracken said, is a simple matter to control. I saw something of the way they manage it in Havana. They do not have any dead line beyond which no one is allowed to pass. The effort is simply to keep a certain mosquito from biting the patient, which is done by keeping the patient away from the mosquito and killing all mosquitoes, which, by accident, may come in contact with the patient or attendants and, still further, by killing the mosquitoes in their breeding places. In smallpox another method is used. Here we prevent the disease by employing a modified form of the virus for vaccination, thus rendering them immune by the previous action of a toxin. In diphtheria, immunization, which is temporary, is produced by another method, namely, by the use of an *antitoxin*. Many other diseases and instances might be cited to show the multiplicity of methods employed and to illustrate the necessity of abandonment of the "shot-gun" or blanket method. It is necessary, however, to take the public into our confidence for the nearer we can get to the laity, and the more we can utilize their brains in helping us to do common-sense things based on scientific principles, the more we can obtain their assistance in the carrying out of wise rules and regulations. We might just as well realize that we cannot do anything in public health without the support of the lay community.

DR. L. B. WILSON (Rochester): I have followed Dr. Bracken's suggestions in his work, but not quickly enough to follow the steps of his development as it seems necessary to do. Only a short time ago we were all in favor of the shotgun method of quarantine. While we are anxious to get into the new method there are some things to say of the shotgun method. Perhaps the adult would have no great importance locally with a smallpox patient, but the state should be enough interested in the child to protect it from smallpox.

Under the new arrangement it is contemplated to make vaccination compulsory. The state has an interest in every child born. At present we have practically a compulsory vaccination in schools, but the first five years of the child are passed under the care wholly of the ignorant and careless parent. We should therefore protect these children before they are exposed. I have yet to see anything compulsory carried out in this country, and, least of all, compulsory quarantine. If we can use the shotgun method of vaccination, for God's sake let's do it, and let's use it a whole lot.

DR. H. M. BRACKEN (Essayist): First, I want to touch on one or two points. Dr. Tuohy raised the point of the expense of antitoxin. You can get free antitoxin and free vaccine from the State Board. Nothing is definitely settled in regard to vaccine, but the State Board purposes to issue free vaccine in the near future.

Dr. Hunter raised a point relative to the success of quarantine in lumber camps. So far as the lumbermen are concerned they have had a hard row to hoe, simply because they would not follow the advice of the State Board, which was that they should employ only vaccinated men. They were not willing to accept the proposal. I have tried hard to get into touch with the lumbermen and do what I could to help them out. Another thing: In Minnesota the law is at fault. In Ontario lumbermen are required to furnish an isolated place for smallpox cases.

I quite agree with Dr. Linjer that vaccine has deteriorated in this country, and I quite agree with Dr. Wilson that there ought to be compulsory vaccination, but that is up to the people and not to the State Board of Health. When people are ready for it we shall have it.

I want to say a strong word in favor of the isolation hospital. There ought to be more isolation hospitals, and an isolation hospital ought to be under hospital management. An isolation hospital for contagious diseases ought to be cared for just the same as a hospital for other purposes, and the idea of running a quarantine hospital for smallpox without interne or medical attendant is absurd.

PROTECTION OF THE IGNORANT*

O. R. WRIGHT, M. D.

HURON, S. D.

Fire! The cry rings out at midnight, the bells clang, the whistles shriek their warning, the populace rises with a bound from their warm beds, and, with bated breath and anxious heart, seek to find if they or their friends are confronted by the devastating element; and, if such be so, they lend willing hands and untiring effort in helping to prevent injury or loss of property, or life. The editor of our great public mouth-piece, the "press," alive to every detail, writes columns on the loss of property or of life, and dwells with censure when there has been carelessness or lack of protection from the well-known dangers of the element. Nations spend millions annually in protecting themselves from fire. Every individual is taught from his infancy how to guard and protect himself, his property, or his family from fire,

and is willing to tax himself and give up no small percentage of his income to insure himself from loss by this element. And yet, how small is the number of lives lost by fire compared with the number destroyed by disease! How few are maimed or permanently afflicted! The loss of property is soon restored, the scars soon healed, and sometimes what seems destruction turns out to be a benefit, but a life lost by disease is gone forever and years of sickness can never be restored. Huxley says, with bitter truth, that there is much unnecessary misery in the world caused by ignorance; and in speaking on this subject, I am only referring to that ignorance of the subject in which we as physicians are interested, the subject of physical health, and the peaceful well-being of each individual.

The farmer and the stockman have within the last twenty years learned to know that to be suc-

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cessful, in the full meaning of the word, in their business, they must rely on scientific investigation along the material lines of their individual business. Up at Brookings we have an agricultural college that is educating young men and women that they may scientifically become growers of grain or trees or fruit; that they may know and understand the breeding and maturing of live-stock; that they may know and recognize diseases of plant or animal life; that they may know and understand when and how to counteract such diseases when recognized. The state in its wisdom has made large appropriations to such institutions of learning. Our state and our government provide, at heavy expense, trained veterinarians to travel to and fro through the live-stock districts of our country, that possibility of disease in live-stock may be brought under scientific inspection, and, if such disease is found, it may be properly treated, the herd or individual excluded, and rigid laws of quarantine be enforced, under strong penalties, that the best interests of the country at large, through its animal industries, may thus be conserved.

Gentlemen and ladies of this convention, has there been any such wise and careful thought, or wise and careful action, by the people at large of this or any other country, in regard to the protection of the raising of the human being from infancy to maturity? The farmer knows how to raise his calf or his pig or his colt or his grain or his fruit. He studies periodicals; reads up carefully each recent investigation on the subject; is perfectly willing to be guided by such instruction and apply instruction with wise common sense and energetic endeavor. He knows how to mix a ration for a calf, or how to feed his work-horse, or how to provide a mulch for his trees, because he has taken the scientific knowledge of those who have experimented and proven the subject as facts, and is satisfied that their results are true, and is willing to give them credit for their work. Should one of his animals fall sick from disease he calls immediately upon the best trained scientist within his reach to diagnose and advise. Does he call in the osteopath to treat his sick horse, or the homeopath to treat his cholera hogs, or the Christian Scientist to treat scab on his apple trees? No, but he places credit where credit is due, and seeks the advice of the scientific investigator.

We, as physicians, who style ourselves guardians of the public health, who take upon ourselves the duty of knowing disease, of caring for our clientage to the best of our ability, and guiding and directing their lives that they may be healthful as to body and mind, take upon ourselves one of the greatest responsibilities that can be assumed by any human being; but, I believe, the physician of to-day—and I speak of the family physician—is looked upon with less respect for his knowledge, and with less faith in

his power to fully understand and to guide the sufferer from disease to health, than he was twenty or fifty years ago, when with little knowledge he assumed all the elements of a god in his ascendancy over disease. And I believe there is a reason for this, namely, that we are yet in an unformed state, that the wings of knowledge are yet feeble in their support, and that our flight is weak and faltering; that we are less sure of ourselves and more honest, and this honesty inspires in our patients less confidence, because, knowing little themselves, they expect much of others. I believe that it has been a great mistake in the past—and this belief has been a growing one, and is brought very forcibly to my mind when I see how eagerly the public grasp at actual medical knowledge, as witnessed by the avidity and the interest with which they read articles on medical subjects in the popular periodicals; I believe the public is ready, and has long been ready, for a better understanding of the scientific facts of medicine to-day than has been given them. It is the duty of every physician to instruct his clientage in the common facts of medical knowledge; and he must be painstaking and careful in these instructions, that they may not fall on barren ground. He must teach his patients carefully and in such a manner that they will know that the knowledge which he is giving them is the knowledge of scientific research, that it has been tested and tried and is reliable. He must teach them that there is such a thing as scientific medicine; that there is such a thing as demonstrated facts, which are not theories, mere phantoms of one's mind; that pathology in one is like the pathology in another, i. e., that disease in one is the same disease as in another, and is manifested by the same symptoms, cured by the same treatment, prevented by the same measures, or will cause death in the same manner.

The public has always been reaching out for the impossible. Way back somewhere in the history of man, so far back that we have lost trace of its birth, some incident created in the human mind a miracle of healing, something that could not be understood, and the only hypothesis which could account for the occurrence was that some unseen power was at work; and so the world has always been reaching out for the wonderful, the unknown, the far-distant phantom which would relieve them of their distress. We as physicians have a great task in combating this inborn instinct. The doctor at a distance is always greater than the doctor at home. The unknown surgeon whom rumor simply touches, can perform miracles, but the surgeon at home must simply depend for his reputation on his results. And why? Because our patients see with but narrow sight; they reason only from success; they condemn all failure, and it is our duty as physicians to raise the general knowledge of our

people until they can reason along the lines that we reason along.

The general to be a successful tactician, must have men who fully understand the working-out of this tactics, and the more his men know of the why and wherefore the better soldiers they become. And if we educate our patients to know why we do certain things for the relief of their disease or their injury, the more confidence they will have in our ability to advise and direct their course of treatment which will give nature the best opportunity to restore. But how to do this is the question. Our schools provide for the young man education that will help him to make a living, help him to become an ornament to society, but they do not instruct him in any manner how to simply live. Our fathers and mothers feed and clothe their offspring, see that they are educated, look after their morals as best they can, provide them with some sort of religion that teaches them how to die; but they pay no atten-

tion or give no instruction as to how to live. Our preachers fill their minds with instructions how to live, but only along the lines which they believe will make them more comfortable after death.

And it is up to medical men, as the self-styled guardians of the public health, to organize themselves into a scientific body of teachers who have knowledge that, if put to use, can be of the greatest benefit to the world at large, teaching the simple, fundamental facts of human life—how it comes, how it grows—what and why are its diseases, how to know and understand that scientific facts affect you and me. We must instruct, day by day, every individual, whether it be in the office or on the street, or as a public teacher or by public writing, on this great subject of the protection of his life from the diseases that destroy human existence.

(For discussion, see page 425.)

THE PHYSICIAN AS AN EDUCATOR IN HIS COMMUNITY*

BY C. J. LAVERY, M. D.

FORT PIERRE, S. D.

The education of the masses is a subject that is occupying the attention of men of affairs in nearly every walk in life, throughout the civilized world, more and more each succeeding year, and there is doubtless more energy spent at the present time for the mental culture of mankind generally than was spent at any previous period in the world's history.

Business men of all kinds see the necessity for informing the public along the lines of general education and make every effort possible to disseminate knowledge, as they understand it, among all classes and conditions of men. Whether the motive is always philanthropic or not makes little difference; the results are nearly always advantageous to our present social system and the civilization of our present time.

Interchange of ideas among men broadens the views of all concerned and makes social and commercial intercourse more harmonious and satisfactory. The object of an education is to make men self-reliant and resourceful, as well as to furnish them with such general knowledge as is necessary so that they may know best how to take care of themselves and those dependent upon them.

The knowledge thus obtained teaches the observing individual what should be done, as well as the things which should be left undone; what

should be avoided and what should be sought after. The more general knowledge possessed by the individual, the more likely is he to seek after special and peculiar forms of knowledge and the more observing does he become of the effect produced by certain conditions in others with whom he comes in contact.

The field which the physician occupies in our social system is one which enables him to be of great value as a disseminator of useful knowledge. No class of men occupy so confidential a relationship with the public generally as does the general practitioner. He has access to the hearts and confidences of every member of the family, and at times is the only person, next to their God, to whom they go for relief and comfort.

For that reason the physician can exert a powerful influence in the community in which he lives. He can teach truth and exemplify it, if he will; he can advise true methods of living, which will be applicable to the old, young, middle-aged, or those just emerging into manhood and womanhood. He can exert his influence upon those in authority who have the making and executing of the laws, to the end that the people generally may be benefited physically, mentally, and morally.

As a rule, advice and admonition coming from the physician, is of much greater weight than it would be if presented for consideration by almost any other class of public men, for the ob-

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vious reason that his education and observation have been such, and along such lines, that he is especially qualified to form and express opinions that will be more in accordance with the truth of the matter; and, again, his calling is such that he is less likely to give a prejudiced opinion, which might be the result of commercial or other influence.

The tactful physician can always have a sermon on his lips, and can instruct those with whom he comes in contact in the methods of living, which will always result in great benefit to the community.

When a truth is grasped by the laity, they will invariably pass it along and give others the benefit of their knowledge, and invariably the physician from whom the information was obtained is quoted as the author of their new-found knowledge, and I am sure the general practitioner finds a large and profitable field in which to work. Ignorance and carelessness concerning many of the common phases of human existence, are alarmingly prevalent in all communities, whether it be city or country, village or hamlet. Errors in hygiene and dietetics prevail everywhere.

The effects of this condition are seen when you investigate the numbers of society found in our charitable institutions, and when you consult the death records in the Bureau of Vital Statistics. The number of persons who are charges upon the state on account of blindness, imbecility, and insanity alone teach us that a great work is yet to be accomplished by the physicians of this nation. It is also alarming to note the death-rate among children, which we know is usually due to improper hygiene and improper feeding. It is also needless to say that the physician is in a position to exert a wonderful influence against the various and almost innumerable methods of race-suicide that are in vogue generally.

After calling attention to the field in which the physician can perform a great work and the necessity for that work, let us now consider how he can best exert himself for the accomplishment of that work.

The physician's influence as an educator in the community in which he lives should be considered under two heads: that which he exerts directly, and that which he exerts indirectly. The physician who desires to be of the greatest possible value to mankind from an educational, as well as professional, standpoint, may greatly increase his influence, both directly and indirectly, by not allowing his peculiar personalities, hobbies, personal ideas, and inactivities, which are prone to be the besetting sins of some individuals in the medical profession, as well as in the various walks of life, to interfere with or hamper him. It would be well for him to cultivate as extensive

influence over the public as he possibly can, and extend the range of his power for good to the widest possible radius. His membership in medical societies, churches, lodges, and various social organizations within a reasonable limit should not be neglected. His interest in politics should be sufficient to insure at least a reasonable consideration by those who make politics a business. By attention to these matters of a public nature, he can always exert an influence indirectly upon the masses of the people with whom he comes in contact, and by enlarging the circle of his acquaintance, and thereby the extent of his influence, he can directly secure a more respectful hearing.

The physician may consider it his special province to advise concerning matters of public hygiene and to see that public buildings, auditoriums, churches, and places where the public are likely to congregate in considerable numbers, are constructed along correct lines to the end that ventilation and hygienic conditions may prevail, and while so advising concerning public places, the public generally will become informed concerning rules and principles of hygiene that should be carried out in the construction of their private residences.

Many people do not understand the importance of adequate air-space in rooms. They make the mistake of cutting up houses into small rooms, which would far better serve the purpose intended if they were not divided into rooms at all, or at least into fewer rooms. Adequate air-space being such an important factor in the protection of health, we should never cease to impress upon the public the importance of large rooms in dwellings, whether large or small, whether they cost hundreds or thousands of dollars. If those who are in meager circumstances were given to understand that their small dwelling under contemplation or construction could be made to serve every purpose, as well as be more conducive to health, without partitions, than by being divided up into small rooms, and at the same time cost less money, much progress could be made in the interest of the health of such people, and the solution of the question of the great white plague that is receiving so much attention, would be found.

Dietetics forms an important subject for the instruction of the public generally, and there are few matters of human importance so neglected as the subject of proper food. In this age of commercialism, the feeding of the nations is almost wholly dependent upon those who are interested in the manufacture and sale of food-products. Here the physician may find a fruitful field in which to use his influence, not only as to the composition and form of the food, but also as to the methods of using it. It is surprising

to note the indifference that appears to exist among the laity, regardless of condition or age, concerning what and how they should eat.

Beginning with the earliest infancy, the babe is allowed to take its food at any and all times, whenever the spirit moves, and the fond mother has no more idea of regularity in the feeding of her child than she has of any other subject of which she knows nothing whatever. The babe is allowed to take nourishment, and in such quantities that it is stupefied by excess; then it goes to sleep and sleeps for hours, during which time it is voted a most excellent baby. It is allowed to perform in that way during the day, and when night comes it has fully satisfied its desire for sleep. In the meantime, from overloading the stomach, an acute indigestion has set in, and during the night the child cries with colic. It is trotted from one end of the house to the other, and, finally, by morning, the undigested material is disposed of and nature arrives at a reasonable balance, when the performance is repeated the following day. It is needless to say that such children nearly always succumb to intestinal or other diseases that may attack them during infancy, and it generally requires years for them to regain the physical poise which was sacrificed during their first few months of life. They start out in life irregularly, they continue to be irregular, and, if they successfully escape the vicissitudes of childhood and arrive at the age of puberty, they lack that very important qualification of a good citizen—regularity of life and conduct.

The question of early marriages and large families may engage the attention of the general practitioner every day of his life and nearly every hour of his existence. It is needless to remind the physician in general practice that these matters are constantly being brought to his attention by men and women of his clientele. If it were generally known by the public, and thoroughly impressed upon their minds, that the violation of this, the first law enunciated to man by his Creator, always has been, and always will be, punished by disease and death, and that there is no possible escape from the punishment of such violation, there would unquestionably be a great revulsion of sentiment against practices that undoubtedly exist to an alarming extent throughout every section of the country. The effect upon the body politic of the wanton violation of the commandment to multiply and replenish the earth should be considered under three heads, namely: physical, mental, and moral. Physically, its effect is to produce a class of degenerates, who, fortunately, are not many in numbers, but who are sure to exert their malevolent influence upon society generally. Such individuals are mentally

incapacitated for undertaking and carrying through large and important projects. Their mental capabilities have been perverted and befogged by the insane idea which they or their parents have allowed to dominate their lives and actions. Morally the violation of that great and important law, given to man, not only by direct command, but also instilled into his very soul through the avenue of his physical faculties, is exerting an alarming influence upon the civilization of our time and social institutions generally. Its effect is more subtle in that it is looked upon without suspicion in even our best social circles, and in many places, in various conditions, is considered a beneficent stratagem by which lust and law can be harmonized. The woman in scarlet and the man of loose morals are usually tabooed and avoided in good society, but those living in legalized prostitution are admitted with open arms, providing they have the other necessary qualifications which go to constitute good-fellowship and are congenial spirits.

It is not the purpose of this paper to go fully into this enormous subject, but, lest we forget, it is intended to call attention again to our duties to our neighbor and society generally while acting in the capacity of physicians and surgeons.

DISCUSSION

DR. J. B. VAUGHN (Castlewood): It seems as if these two subjects are very closely allied, and the secretary certainly made a very nice arrangement in having one follow the other. Both papers give excellent ideas. In order to protect the ignorant it seems as if they must be educated just in proportion as we are educated, and if they are to be educated the physicians must be the educators.

For a person to be an educator along any line he must have the qualifications; he must be worthy; he must be a good man; he must bear a good reputation in the community; he must have special preparation, and thorough qualifications in all lines. A teacher of any kind needs these qualifications, and more especially does the physician need them.

When a physician has these qualifications the people will go to him for advice.

DR. LAVERY (Essayist): It is not necessary, I think, to go any farther into this subject than to say that the paper on "The Physician as an Educator in His Community" was not intended to be personal in anything, but to call attention to matters that have probably been occupying the attention of every member of this Association. As was intended by the very able address of our president, the subject of educating the public is a live issue to-day. I believe it is a matter that should receive more general and special attention.

INFANTILE SCURVY

GEORGE I. MCKELWAY, M. D.

ST. PAUL

Of all the diseases affecting infants, infantile scurvy is probably the one most easy of diagnosis and is, at the same time, the one in which erroneous diagnosis is most frequently made. In its early stages it is constantly mistaken for inflammatory rheumatism, which is not a disease of infancy and, in its later manifestations, for purpura, rachitis, and marasmus. The latter term, both in this and other conditions, covers a multitude of sins of practice and errors of diagnosis.

It cannot be too strongly emphasized that inflammatory rheumatism is not a disease of infancy. Koplik reports having seen only one case, and he quotes Miller as having "found in the literature only nineteen authentic cases." Rotch says it is "extremely rare," and quotes no cases; and as nearly every case of infantile scurvy which the writer has seen had been previously mistaken and mistreated for inflammatory rheumatism he thinks it wise to strenuously emphasize this fact.

Infantile scurvy is a disease of recent recognition, and was recognized at the same time that the use of sterilized milk and of patent and proprietary "infant foods" began. The fad of one and the iniquity of the other are responsible for it. Dr. Barton, an English physician, first called attention to it in 1883. He reported thirty-one cases. The first text-book mention of it was in Northrup's article in "Starr's American Text-Book of Diseases of Children," in 1894. Northrup reported fifteen cases at that time. It is not a rare disease now, however. It was not a rare disease then, probably, but, then as now, only in greater degree, it was mistaken for other conditions. Now every man doing special or occasional work in children's diseases, and who knows it when he sees it, meets it occasionally.

Scurvy is caused, in a child, by a want of sufficient amount of fresh food, and little more than this is known concerning its etiology. It occurs in children persistently fed with cooked foods, including sterilized milk, condensed milk, barley-water and jelly, and their congeries, and all patent and proprietary "infant foods." Gibson, in his "Practice," includes peptonized milk in this list, but quotes no cases arising from its use. The fact that the milk is boiled in certain peptonizing processes would lead one to believe this possible when this preparation, as under no circumstances should ever be the case, is long continued as a food. It is believed that the ad-

ministration of these foods causes scurvy, not because of some quality in them engendering it, but because some quality necessary to health is either primarily absent from them or destroyed in them when present by the heat employed in their preparation, which quality, when present, inhibits the disease. Infants fed on a too greatly diluted raw milk or on human milk insufficient in quality or quantity, also exhibit it, as do children kept on an exclusive milk diet after nature has given due and timely notice by supplying teeth that they were ready for masticatory food. It is seen usually after the sixth month and before the eighteenth, and symptoms of it are shown six weeks or later after persistent improper feeding has begun.

It is not necessary or wise in a paper of this character to go into a differential diagnosis as between this condition and those for which it is mistaken. It is enough for a probably correct diagnosis to know that the child has been persistently improperly fed, and that it presents some one or more of the symptoms of scurvy. Proper feeding for less than one week will usually change conditions for the better so surprisingly, so miraculously almost, as to resolve any doubt that may have existed as to the nature of the disease. The most valuable diagnostic point in its determination is the exceedingly prompt recovery from all symptoms which follows proper feeding alone.

The symptoms of scurvy, in about the order of their occurrence, are fretfulness, disinclination to move, and evident pain on moving one or more limbs. If the child has walked or crept it will decline doing either. Profuse head-sweats may occur. The child evinces pain on being lifted or diapered. Later, enlargements may be found about the costochondral junctions or in the course of one or more long bones. Stiffness or immobility, with great tenderness, of the affected limb or limbs may ensue. If a femur is affected, outward rotation of that limb will occur. Ecchymotic areas are found in the affected limbs, around the eyes, and elsewhere. The gums become swollen, red, and bleeding, especially around erupted teeth, and, later, ulcerated and necrotic. Epistaxis, hematemesis, hematuria, and bowel hemorrhages are present. Exophthalmos from orbital hemorrhage may be exhibited. The spleen is enlarged. The child is markedly anemic, puffy, and hydremic in appearance; has lost ap-

petite; its respirations are increased, and the pulse-rate not usually correspondingly disturbed; its temperature in early conditions is normal and in later ones shows a fitful increase of from one to four degrees. Separation of epiphyses may occur in the affected limbs. The breath is foul, sordes are present, and the child presents a picture of utter misery. Death may ensue from cerebral hemorrhage, diarrhea, pneumonia, exhaustion, or intercurrent disease.

Post-mortems show the findings usual in equivalent conditions in adults; i. e., hemorrhages into all organs, into all serous and mucous cavities, and into and between muscles. Subperiosteal and subcutaneous hemorrhages and alteration of the contents of the medullary spaces, are found. The subperiosteal hemorrhages dissect between the bone and the periosteum, and occasion the enlargements found in life in the course of the long bones and at the costal cartilages.

Not all or many of the symptoms enumerated need be looked for or waited for in any case. To warrant a tentative diagnosis of scurvy it is sufficient to find an improperly fed child declining its accustomed exercise, crying when handled, and evincing, or not, pain and tenderness and possibly swelling about its ribs, its arm, or leg. It is children in this condition that are being constantly dosed with salicylates for rheumatism.

As to the treatment: it is the same treatment that, properly employed, will prevent and cure most of the ills of infancy. It is simply the substitution of proper food for improper food; and nothing more in early cases because this is enough and all. A properly modified *raw* milk should be given, modified in accordance with the child's condition, weight, and individuality, as well as age. This is not to be heated, but warmed, when fed. A teaspoonful of sweet orange juice three or four times daily is useful in this condition, as it also is in health.

As has been stated, the improvement that occurs in from three to five days is marvelous. The pain and tenderness and swellings disappear, the child no longer wails when handled, and very soon it endeavors to resume its normal activity. Even in the advanced cases, in longer time, the serious symptoms disappear, the unhappy expression vanishes, and improvement and restoration in every particular are prompt and rapidly progressive. The consequent anemia should be corrected by proper doses of iron and arsenic; and, because of the infant's diminished resistance and consequent liability to intercurrent disease, cold and exposure should be avoided. Fresh air is not cold and exposure, and should be amply provided for, night and day.

The first case of infantile scurvy the writer saw was in 1893, and the patient was his own

child. She was eleven months old, had been creeping and standing by chairs, and was apparently a happy, wholesome, well-nourished child. She had been fed on a properly modified milk sterilized. She began to be unhappy, declined exercise, cried when handled, and tender enlargements were noticed about one ankle and the thigh of the same side. Dr. Louis Starr saw her, made a diagnosis of scurvy, and made no change in the milk formula, but discontinued its sterilization and ordered, additionally, a teaspoonful of orange juice three or four times daily. The change in every particular in three days was phenomenal, and in two weeks the child was endeavoring to get upon her feet again.

Since then the writer has seen quite a large number of cases. In two others no fault could be found with the food formula save sterilization, and improvement resulted instantly when that process was discontinued. What inference are we to draw except the one, that sterilization was the causative factor in the condition? We are aware that some specialists in diseases of children assert that they have not known of cases of scurvy in which sterilization was the proven cause. Koplik, however, states that "in the most aggravated cases that have come under my notice the diet has been sterilized milk."

The majority of the cases seen and of those reported in the literature have been in infants fed on proprietary foods or condensed milk. There is no possible excuse for the use of these food-nostrums in view of our present-day knowledge of infant-feeding, and to use them is a confession of ignorance of that subject, and results, almost invariably, sooner or later, in disaster to the child.

ON FLATULENCE AND ITS TREATMENT

Max Einhorn of New York says that flatulence may be associated with the stomach alone, or with the intestine. When primary it is not caused by fermentation, but by swallowing of air. The sphincter muscles of the digestive canal are principally affected. It may exist for a long time without serious consequences. In acute and chronic gastric catarrh there is a real increase in the amount of gas in the stomach and a lessened absorption of it. Flatulence can be lessened by distracting the attention of the patient from his own sensations. When it is secondary it results from cardiac, circulatory, or respiratory diseases, and the relief by belching is rather imaginary than real. In primary flatulence treatment consists in the effort not to belch, with a simple diet and avoidance of beverages and foods that produce gas.—Medical Record.

PHYSIOLOGIC CHEMISTRY

CONDUCTED BY

RICHARD OLDING BEARD, M. D.
Professor of Physiology, University of Minnesota

ASSISTED BY

J. P. SEDGWICK, B. S., M. D.
Instructor in Physiologic Chemistry, University of Minnesota

THE CHEMISTRY OF THE SALIVA

A communication to the Section on Laryngology and Otology of the American Medical Association, by D. Braden Kyle, of Philadelphia, which discusses the "Chemistry of the Saliva in Relation to Hay-Fever," encourages the hope of the more extended application of physiologico-chemical methods to questions of diagnosis and treatment. The discussion of the paper, however, was disappointing in that it did not address itself to the subject matter at all fully or fairly.

It would seem that for such analysis of the saliva, as the author cites, to safely serve as an etiologic index, they should be supported by experimental studies in the production of similar conditions by the suspected abnormal constituents of the saliva. One wonders, too, why the inquiry should not be extended to the nasal secretion as well.

The suggestion that the sulphocyanide of the saliva points to the causative factor of the disease can hardly be taken very seriously. While the cyanide is no longer regarded as an agent in salivary digestion, and while, in the light of recent evidences of its coincident output by other than the salivary channels, it may fairly be considered as an excretory item, yet it is too usual, and by no means so seasonal, a constituent of the saliva as to be looked upon as abnormally present. Its possible increase is, moreover, not satisfactorily shown to be in direct ratio to the development of the disease in question. If it were, we should expect to find it in other and as readily analysed excreta.

BEARD.

"A CLINICAL METHOD FOR DETERMINING THE ALKALINITY OF THE BLOOD"

In the June number of the American Journal of Physiology, Hermann M. Adler describes such a method as indicated in the above title. He describes, first, the difficulties of (1) titration to an end-point, and (2) determination of the H and OH ionization. "All of the methods so far described depend upon titration. There are two reasons for this: first, because investigations of the OH and H ionization of the blood have hitherto been possible only with the aid of the con-

centration cell, involving difficult procedure and expert technic; secondly, because the indicators which have been in use do not change colors within the range of ionization found in blood. Recently, however, Salm has carefully studied the exact point of H and OH ionization at which a number of indicators turn, and accordingly it has been possible to pick out from this list a certain number of these that give sharp color reactions at about the H-ion concentration of the blood—in particular two—rosolic acid and neutral red."

The tests were therefore made with paper impregnated with rosolic acid, which is orange-yellow in the presence of acid, and red in the presence of alkali, with an intermediate pink at neutrality. Normal serum changed the pink paper to red, while diabetic serum and serum from a jaundiced patient, did not.

The method is extremely simple, but further work is necessary to determine its exact value.

SEDGWICK.

CHOLINE IN CLINICAL DIAGNOSIS

A report by Otto Rosenheim, of King's College, London, upon the presence of choline in the cerebrospinal fluid and, in all probability, in the blood of cases of disease involving degeneration of actual nerve-elements, has been published in the British Journal of Physiology.* It suggests a simplified technic for the determination of the presence of choline, by the direct treatment of the alcoholic extract of the suspected fluid with the iodine test-agent, replacing the older method of the intermediate treatment of the extract with the platinum salt.

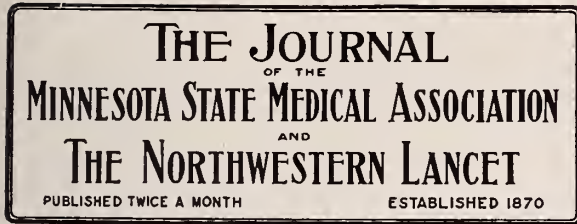
As well by the shorter, as by the longer method, the characteristic brown, hemin-like crystals of the periodide of choline appear.

The work is confirmative of the conclusions of Halliburton and Mott with respect to the relation of choline to nerve-destruction.

It tends, together with the more doubtful researches of H. Claude and F. Blanchetiere, to support, also, their belief that this product of the katabolism of lecithin passes into the blood, where, clinically, its determination is an easier matter.

BEARD.

*British Journal of Physiology, Vol. 35, No. 5 and 6



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EPIDEMIC ANTERIOR POLIOMYELITIS

An epidemic of infantile paralysis has existed for some months in New York. More than 100 cases have been reported, and an effort is being made to find the germ responsible for the disease. So far, no one has found a specific organism, yet that an organism exists no one can deny.

The picture of the onset of acute anterior poliomyelitis is a familiar one. A sound and apparently healthy child develops a temperature, complains of illness, is confined to bed for a day or two, suffers no pain of importance, is dazed or delirious for a few hours, and recovers. On the third or fourth day of the illness the physician or the mother discovers a helpless leg, which improves to a certain point, and then a group of muscles in the thigh or the peroneal or tibial group in the leg is found wasted and helpless. Too often the physician is hopeful and encourages the mother to believe the child will outgrow the paralysis. The reverse is usually the result. No restoration takes place in the paralyzed group of muscles, and the leg is allowed to take care of itself until the melancholy fact is apparent to all that the neglect of early treatment has caused a permanent deformity. The gray cells in the anterior horn of the spinal

cord have been destroyed and no repair or restoration is possible. The child grows up with a withered extremity, and, to prevent gross deformity, must be surrounded and supported by braces and crutches.

It would at least be some sort of gratification if the bacillus which causes such widespread disturbance could be isolated. It is possible that some means of protection and prevention might be thrown about children that were exposed to the sources of communication. Some well-known disease may be the foundation for a toxin that is responsible for epidemic infantile paralysis, and the investigations in New York will be watched with interest.

NEWSPAPER BEAUTY DOCTORS

In many of the daily papers published in the large cities there is a new department, semi-medical, that may appeal to those who read the "Family Physician," but it is not quite so interesting to the medical profession.

It has been suggested that articles which have to do with public health should be published by the daily press, and the purpose of the articles should be educational. Simple statements concerning communicable diseases, such as tuberculosis, syphilis, and the exanthemata, would do much toward preventing the spread of avoidable and dangerous forms of disease.

When a paper devotes a column or two to a "beauty department," in which cosmetics are given in prescription form, the reading matter should be supervised by a physician or dermatologist.

The editor of THE JOURNAL-LANCET has received a letter from a prominent physician in Minneapolis in which he utters an urgent protest against the indiscriminate prescribing in the daily press by the so-called beauty specialists for women. The physician was called upon to treat a young girl of 17 years who had applied a lotion to her face to remove freckles. The solution was composed of corrosive sublimate, 8 grains; and tincture benzoin, two ounces. The result of the powerful corrosive solution was a badly burned face, with large pustular bullæ. The skill of the physician was the only thing that saved the girl from permanent scars. Here is a case for a malpractice suit, not against the physician, but against the newspaper. If this had happened in the practice of a physician, he would have been severely censured, if not sued for negligence. Such a solution would never have been ordered by a physician who was at all familiar with the action of bichloride of mercury; yet when a formula of this kind is printed in a newspaper it is a temptation to many women,

old and young, who think their complexion needs attention.

The newspapers go still further when the "beauty doctors" give advice and suggestions. Only a few days ago a woman sought advice from a beauty specialist as to the cause of, and asked for a remedy for, flushing of the face! The specialist replied by first suggesting that, if other symptoms were present, the young woman might have heart disease!

Such suggestions are unwise and not infrequently lead to the development of fears that become fixed in the mind of the patient. There are too many people who are waiting for suggestions, and they usually adopt those that are unwholesome.

The publication of various methods of suicide, giving harrowing details and printed under glaring head-lines, often suggests to the unbalanced mind an easy method of death. Imitators among neurotics and those who are depressed are too numerous, and some effort should be made to prevent these unfortunates from following bad examples. No doubt, if proper pressure is brought to bear the beauty specialist could be suppressed, or at least kept within safe lines, but it is hardly possible that detailed information covering murders and suicides can be eliminated from the newspaper columns. It is news, and the people want it!

The State Medical Association and its component societies have considered the subject of medical topics for laymen and doubtless their ideals will be realized in time. The trouble lies mainly with the doctors, who are ultra-ethical. They fear to prepare a subject for the public on account of the charge of a brother practitioner that medical standards would be imperiled. If medical subjects were discussed and credited to a medical society, the newspapers would gladly publish the matter. It is time the editors of the daily press and the medical societies were brought into a closer bond of sympathy. If the Hennepin or the Ramsey County Medical Society would inaugurate this plan, other societies would soon follow.

POPULAR MEDICAL ARTICLES

That the public has been learning a great deal about medical matters during the past decade is known to every intelligent physician, but that it has been learning "much that ain't true" is also known, and is unfortunate. The popular magazines at last seem to have discovered a medical man, Dr. Woods Hutchinson, of California, we believe, who has a message for the public apparently best delivered through such channels.

Dr. Hutchinson is a pleasing and vigorous writer, and will no doubt reach and influence a

large number of people. In the current (September) number of the American Magazine he writes on "Sleep and Its Counterfeits," and in the current issue of McClure's Magazine he writes on "Poison Foods."

Dr. Hutchinson writes with sufficient dogmatism to carry conviction to the mind of the average reader without unduly offending the scientific man who abhors dogmatic statements in scientific papers, while recognizing the necessity for them in popular papers upon scientific subjects.

His presentation of the foolishness of food fads should convince many readers that the experience of the ages, scientifically determined and catalogued into a form justly called knowledge, concerning the food staples may not be lightly and advantageously set aside by the dogmatic, though wild, assertions of the advertisers of breakfast-foods or the occasional practice of vegetarians, nut-eaters, etc.

In his paper on "Sleep and Its Counterfeits," he brushes aside many false and harmful notions which have become maxims to be religiously followed; and he clearly points out that the so-called sleep-producing drugs do not produce sleep, but a state of unconsciousness, and that their use is permissible only in skilled hands.

He asserts that the temperature of sleeping-rooms should be about 55° to 60° F., and he seems to think that a departure from this degree of warmth implies less fresh and more foul air because of the closed windows which follow a further degree of cold in the bedroom. That such a temperature is the most comfortable to a city man or woman who takes little or no exercise, we cannot deny, but to say that it is best for a person who has coursing through his veins the amount of good red blood that is produced by proper exercise in the open air, is purely dogmatic, and the assertion is harmful. In Minnesota one must often choose between air much colder than this or air that is extremely foul because of bedroom windows closed to maintain this degree of warmth. The assertion is particularly capable of harm at a time when so many people are living, both night and day, an outdoor life for incipient tuberculosis.

Medical men have never before given so much attention to popular education in medical matters, and it is well that all who write or speak for the public constantly bear in mind the danger of general assertions which convey sufficiently clear impressions to medical men, but which may carry very harmful impressions to the mind of laymen.

We commend to our readers the articles of Dr. Hutchinson, which, we believe, will have a very wholesome effect.

WHO IS JUMBO?

Nearly all the "famous doctors" who travel from place to place, and do marvelous cures, have a history. It is not always easy to obtain the various chapters in their history, but when obtained some of these chapters read "marvelously" alike.

One of these healers, calling himself "Jumbo," for some time past has found green pastures in Yellow Medicine (suggestive title!) County, but at last he found his Boswell, or, rather, his Tarbell, who has written the long-concealed chapter and headed it with "Jumbo's" photograph, which bears across the chest the significant "No. 3214," and under this number in the Anamosa jail of Iowa is written a part of the criminal history of L. M. Isgrig, alias "Jumbo," the great healer.

It is a curious comment on juries that "Jumbo" was acquitted in Yellow Medicine County when tried upon the charge of practicing medicine without a license. Had he not been convicted of stealing, and photographed in an Iowa jail, he might have become one of the great leaders of this famous age of medical discoverers!

RECIPROCAL MEDICAL REGISTRATION —A CORRECTION

In our issue of Sept. 1st we published two lists of states whose certificates to practice are recognized by Minnesota upon a reciprocal basis. The heading of the second list, "Qualification No. 2" should read "Qualification No. 1." The difference is quite material to those interested, and we are glad to have the mistake pointed out, and we are further glad that it was not our mistake.

CORRESPONDENCE

PROF. BIER'S WORK IN HYPEREMIA

Berlin, Germany, August 23, 1907.

TO THE EDITOR: Before leaving for Europe this spring you asked me to write you of Prof. Bier's work in hyperemia after I had made a study of it.

I have fully investigated this system of treatment and have made a study of the technic employed, and I must say I am enthusiastic over the results obtained, both immediately in relieving pain and other acute symptoms and remotely in returning the patient to his work with mobile joints, small scars, and a minimum loss of function.

The whole work is based upon the fact that nature always deals with infections by means of

hyperemia, and that the artificial production of hyperemia in a part infected assists nature in her own way to kill the intruding germs and to rid the organism of the refuse material left after the slaughter. Most of us who have tried the treatment in America have made the same mistake—we have been impatient for results, and in our zeal to do enough we have failed to properly differentiate and individualize our cases and have overdosed, both in time of application and in the severity of the hyperemia produced, in many cases producing a venous stasis instead of a hyperemia. The rule that Prof. Bier lays down should be strictly observed: "If the treatment causes increase of pain it is either not indicated or improperly applied."

The treatment is divided into three parts:

1. Hyperemia by constriction.
2. Hyperemia by suction, or cupping.
3. Hyperemia by hot-air application.

The indications for each are absolutely distinct from the others.

I have not the time to go into the details of indications and technic. Prof. Bier's book gives both well in German, and Prof. v. Schmieden has placed the manuscript for a book in the hands of a publisher, and this will appear in English within a few months, and all who are interested in the subject should read it. Prof. Schmieden is clear and exact in his explanations, and is an expert in this work. I feel that a thorough understanding of this work will almost revolutionize the treatment of both acute and chronic inflammations, and I hope all who are interested in good work will follow closely Prof. Bier's own technic, and good results must follow.

J. H. BEATY, M. D.

AUTOMOBILES

St. Paul, Sept. 12, 1907.

TO THE EDITOR: Much has been written of late about automobiles for physicians. Before buying a machine every physician should fully consider the following points:

1. The purchasing cost.
2. The interest on the amount invested.
3. The life of the machine.
4. The cost of running—gasolene and garage dues.
5. The cost of repairs.
6. Depreciation of value.

When these points are fully weighed by the man of moderate means in comparison with a horse, in dollars and cents, the horse holds the record. Time does not permit a figured estimate of these points.

To those physicians who are doing a large and increasing practice the time saved may more

than counterbalance the increased expenses, but they will be the ones who know how to properly run a machine and avoid the inconveniences of accidents. The average country physician is best behind his span of tough ponies.

Looked at as the matter now stands, it cannot be figured out practically any other way.

C. F. DENNY, M. D.

REPORTS OF SOCIETIES

ABERDEEN (S. D.) DISTRICT SOCIETY

The September meeting of the Aberdeen District Medical Society of South Dakota was called to order by the president, Dr. Chas. E. McCauley, in the rooms of the Aberdeen Commercial Club Tuesday evening, Sept. 17, 1907.

Clinical cases were reported by Drs. Johnston, Murdy, and Alway. The papers and discussions were as follows:

1. "Pelvic Suppurations in Both Men and Women," by Dr. Archibald MacLaren, of St. Paul; discussed by Drs. Murdy, Mallery, and MacLaren.

2. "Prophylaxis and Treatment of Gonorrheal Ophthalmia Neonatorum," by Dr. R. D. Alway, of Aberdeen; discussed by Drs. Miller, Sorensen, Johnston, and Alway.

3. "Uterine Prolapse," by Dr. E. Jay Clemons, of Aberdeen; discussed by Drs. MacLaren and Clemons.

The names of Dr. David J. Carson, of Faulkton, and Dr. W. R. Gunderman, of Selby, were received for membership, to be acted upon at the next regular meeting.

After the meeting the Society adjourned for a luncheon.

E. JAY CLEMONS, M. D., Secretary.

BLACK HILLS (S. D.) DISTRICT SOCIETY

The Black Hills District Society of South Dakota held a regular meeting at Hot Springs, on Sept. 7th.

Papers were read by Dr. C. C. Allison, of Omaha, Neb., on "Palpation, an Aid in the Diagnosis of Surgical Diseases," and by Dr. F. E. Walker, of Hot Springs, on "Non-inflammatory Affections of the Appendix Vermiformis."

Dr. H. H. Wilcox reported a fatal case of rupture of the urinary bladder (traumatic). Dr. J. W. Freeman, of Lead, reported 300 cases of carbon dioxide asphyxia, treated without fatality, and also exhibited radiograms showing a marked deformity of the feet, and fractures of the ulna and radius, healed with great deformity where function was not markedly impaired.

The secretary was instructed to arrange for a joint meeting of the Huron, Mitchell, and Black Hills District Societies at a time and place suited to the convenience of the visitors.

The following resolutions were adopted, and the secretary was instructed to give them publicity:

Resolved, That the Black Hills District Medical Society, in session at Hot Springs, Sept. 7th, 1907, take this means of expressing the disapproval of the medical profession of this District towards the attitude of certain practitioners at Rapid City, who have persistently refused to comply with the state laws regulating the practice of medicine, thus casting odium on the profession at Rapid City and an unpleasant notoriety over the District, and which, unfortunately, includes those practitioners at Rapid City who have complied with the law and are practicing their profession in a legitimate and painstaking manner.

Resolved, That this Society extends sympathy to the legally qualified physicians in Rapid City in this situation.

Resolved, That this Society pledges its aid to the Board of Medical Examiners in their efforts to secure compliance with the law by those violating it in Rapid City and elsewhere in this District.

Resolved, That a copy of these resolutions be sent to the secretaries of the other districts in this state, with the request that they be read at their next regular meeting.

Drs. Francis E. Clough and James A. Crouch, Lead; Albert Carr, Hill City; J. L. Chassell, Belle Fourche; Daniel W. Flick, Rapid City; Thoralf O. Sandbo, Lemmon; and Hamilton H. Wilcox, Hot Springs, having made application and been recommended by the Censors, were elected members of this Society.

Deadwood was selected as the place to hold the annual meeting for election of officers and other business on November 7th.

W. E. ASHCROFT, M. D., Secretary.

HENNEPIN COUNTY SOCIETY

The regular meeting of the Hennepin County Society was held on September 2d, the president, Dr. J. E. Moore, in the chair, and twenty-five members present.

The Executive Committee reported the program for September 16th as follows:

1. "Opsonins," Dr. J. S. Cross.

2. "Dislocation of Shoulder, with Complications," Dr. C. H. Hunter.

The name of Dr. Emile O. Voger was proposed for membership.

The first paper of the evening was read by Dr. H. L. Staples, "Epidemic Meningitis." Quincke's set of instruments for spinal puncture was shown.

The discussion was opened by Dr. C. H. Hunter, followed by Dr. J. W. Bell, Dr. G. F. Roberts, Dr. J. W. Rutledge, Dr. J. Frank Corbett, Dr.

J. G. Cross, and closed by Dr. Staples.

The next paper was by Dr. C. N. Spratt, on "Location and Removal of Foreign Bodies in the Eye." The paper was discussed by Dr. Farr, Dr. Donaldson, Dr. Spratt in closing.

J. G. CROSS, M. D., Secretary *pro tem*.

At the mid-monthly meeting on Sept. 16th, Dr. Cross read a paper on "Opsonius," illustrated by charts and microscopic slides. The paper was discussed by Drs. Day, White, Ulrich, Little Staples, and Cross.

Dr. C. H. Hunter read a paper on "Dislocation of the Shoulder with Complications." The paper was discussed by Drs. Hamilton, Little, Benjamin, Moore, and Hunter.

Drs. Charles E. Inghert and Laura A. Lane were proposed for membership.

C. H. BRADLEY, M. D., Secretary.

NEWS ITEMS

Dr. Gilbert Gosslee, of Wabasso, was married last month.

Dr. W. E. Robinson has removed from Spearfish to Rapid City.

Dr. Neil McLean, Hamline, '06, has located in Kenmare, N. D.

Dr. Andrew Soderlind, of Minneapolis, has returned from Europe.

Dr. A. S. Hoon, of St. Joseph, Mo., is filling Dr. Brown's place at Nemo, S. D.

Dr. A. Lind, of Minneapolis, has returned from a year's trip to Cuba.

Dr. A. G. Holdridge, of St. Cloud, is doing post-graduate work in Chicago.

Dr. C. A. Barton, of Wilton, N. D., has sold his practice and moved to Elmont, N. D.

Dr. K. Kaysen, who recently located in Ashley, N. D., has decided to return to Wisconsin.

Dr. Fred H. Lattimer, of Gettysburg, S. D., has been doing post-graduate work in New York city.

Dr. E. C. Perham, of Schoonmaker, is the inventor of an automobile inner tire that promises to be of real value.

Dr. Joseph G. Dillon, of Fargo, N. D., was married last month to Miss Lottie H. Kurtzman, of the same place.

Miss Laura Owen, of Austin, has been appointed superintendent of nurses in the City Hospital of Louisville, Ky.

Dr. C. P. Holden, a graduate of McGill, has located in Caledonia, and will be a partner of Dr. Wm. Browning, of that place.

The physicians of Thief River Falls are planning to open and run the private hospital of Miss Ida Boen, which was recently closed.

Faribault is to have the new hospital to be built by the German Evangelical Synod. Not less than \$40,000 will be spent for a building.

Dr. James Semple, of Langdon, N. D., has sold his practice to Dr. I. M. Law, of Loma, in the same state, and will locate on the Pacific coast.

Dr. F. L. Norin, of Roseau, has opened a hospital at that place, on a small scale, and when the patronage justifies it he will erect a hospital building.

Dr. John L. Langford, of Green Isle, has returned from a year's trip and study in Europe. Dr. Langford was accompanied by his wife and daughter.

Dr. W. S. Anderson, of Warren, who has been East doing post-graduate work, brought home a bride. Dr. and Mrs. Anderson were married in Chicago in July.

The grand jury of Bremen county, Iowa, has indicted fourteen physicians of the county for violation of the antitrust law in raising their fees. A word of warning!

Miss Abbie Peters has resigned her position as superintendent of the Stillwater City Hospital. She will be succeeded by Miss Elsie Bruntlett, of Des Moines, Iowa.

Dr. O. F. Schussler, State University, '05, who has been practicing at Herreid, S. D., has moved to Taft, Mont., and becomes physician and surgeon of the Milwaukee railroad.

Dr. P. H. Brown, late of Nemo, formerly of Sisseton, S. D., has removed to Spearfish, having been appointed a member of the teaching faculty of the state normal school at that place.

Dr. A. H. Tufts, health officer of Sioux Falls, S. D., has precipitated trouble with the anti-vaccinationists by an order excluding children from the schools if they cannot show a vaccination scar.

Dr. D. H. Lando, of St. Paul, has been appointed assistant surgical director of the Royal Hospital of Vienna. The position comes to Dr. Lando as a result of his work in pathology while at Vienna three years ago.

Dr. Gottfried Stamm, of St. Paul, died last month at the age of 64. Dr. Stamm graduated from the University of Berne, Switzerland, in 1867, and began practice in St. Paul in 1880. He held the position of Swiss consul for Minnesota, North and South Dakota and Wyoming from 1889 till the time of his death.

Dr. A. F. Daniels, of Pomona, Cal., has been visiting friends in Minnesota. He began the practice of medicine in St. Peter in 1853. He was the first physician in Minnesota to administer an anesthetic (chloroform), and at a meeting of territorial settlers the other day he met the

man to whom the anesthetic was administered. He was at the time a lieutenant in the army, stationed at Fort Ripley. Such events make history.

The Washington State Society Association met last month at Seattle. The following were elected officers for 1907-'08: President, Dr. C. N. Suttner, of Walla Walla; vice-president, Dr. W. H. Axtell, of Bellingham; secretary, Dr. C. H. Thompson, of Seattle; treasurer, Dr. L. L. Love, of Tacoma. An entire evening session was given to the discussion of the public welfare and the moral side of the practice of medicine. Race suicide and criminal surgery were vigorously handled, and the statement was made that 100,000 criminal operations are performed annually in this country. The retiring president treated the subject in his annual address.

The Huron District Medical Society of South Dakota met at Huron, S. D., on Sept. 11th. Dr. A. E. Clough, of Madison, was elected president, and Dr. H. Denman, of De Smet, secretary. Dr. A. C. Stokes, Professor of Genito-urinary Diseases in the State University of Nebraska, read a paper on "Prostatectomy." Other papers were read as follows: By Dr. A. E. Clough on "Psychologic Suggestion as a Remedy for Disease"; by Dr. L. G. Hill, of Watertown, on "Do Tonsils and Adenoids Return After Removal?" by Dr. E. J. Clemons, of Aberdeen, on "Uterine Polypi"; by Dr. F. M. Crain, of Redfield, on "Intestinal Tuberculosis"; and by Dr. Denman, of De Smet, on "Summer Diarrhea." A resolution was passed asking the State Association to nominate candidates for the State Board of Health.

The superintendents from ten of the training-schools for nurses in the Twin Cities, including two members of the State Board of Examiners, met with Miss Erdmann, superintendent of nurses in the Minneapolis City Hospital, Friday, Sept. 13. It was the first time they had met, and two very profitable, as well as enjoyable, hours were spent in discussing plans for the training of the nurse the coming winter. Affiliation of schools was also considered. It was decided to meet informally once a month at different institutions, and talk over problems concerning the progress of the nursing profession. Light refreshments were served before adjournment. The next meeting will be held at St. Luke's Hospital, St. Paul, with Miss Revburn. All are to bring an outline of both lecture- and class-work as given at each school, from which a uniform course is to be the outcome. This is the first step taken towards affiliation of training-schools.

FOR SALE

A practice of \$3,000 in a town of 400, with

large farming community; doctor must be a Norwegian. Price, \$400 for practice, office furniture, two horses, two buggies, harness, and cutter. Going to Europe. Address W. H., care of this office.

FOR RENT

Private office in suite of four rooms. Will give free rent to a proficient bacteriologist and pathologist, who is a recent graduate. Telephone for an appointment, T. S. 1848, or N. W. Main 3809-L. Dr. J. H. Burgan, N. Y. Life Bldg., Minneapolis.

FOR SALE

An unopposed practice in Southeastern Minnesota, paying from \$5,000 to \$8,000 a year goes to the purchaser of my house, lot, and barn at \$2,500. Retiring from general practice. Address R. E., care of this office.

FOR SALE

An unopposed lucrative practice, with small, paying drug-store in the central part of Minnesota. Large territory; population, Scandinavians, Germans, and Americans. Books will bear investigation. Will retire. Address G. N., care of this office.

FOR SALE

An unopposed country practice, near Minneapolis, worth \$2,400 a year, is for sale cheap; a very desirable location. Address H. R., care of this office.

FOR SALE

An unopposed practice, within forty miles of Minneapolis and paying \$3,000, is offered for sale for \$500 cash or for \$600, one-half cash. This includes good horse, buggy, and cutter, and some office furniture. Reason for selling is desire to change climate. Address I. M., care of this office.

TO THE PROFESSION—X-RAY LABORATORY

I have a well equipped x-ray laboratory, rooms 214-218 American National Bank Building, corner Fifth and Cedar streets, and am prepared to do your radiographic work.—W. S. FULLERTON, M. D., St. Paul, Minn.

FOR SALE

One-half interest in a small, well-equipped, contract hospital in northern Minnesota. Business clearing over \$400.00 per month, local surgeons for railroad, etc. Will retire in six months on account of health of family necessitating a change. \$1,000.00 cash will handle it.

FOR SALE

A 1906 Cadillac in good condition. Just the machine for a doctor for it always goes. Leather top and sidelamps. Price, \$550. Address S. P., care of this office.

Address S. C., care of this office.

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SYMPOSIUM ON GALL-BLADDER DISEASE*

THE PATHOLOGY OF GALL BLADDER DISEASE*

By J. L. ROTHROCK, M. D.

ST. PAUL

Owing to the very intimate relation of disease of the gall-bladder and its ducts, it will be necessary to somewhat extend the scope of this paper, to include a consideration of the bile-passages as well. Functionally, the gall-bladder being merely a reservoir for the surplus bile, the important rôle played by the bile-passages as an outlet for the flow of accumulated bile, as well as affording an avenue for the entrance of infection, at once becomes apparent.

Since the inflammatory conditions of the gall-bladder and its ducts constitute by far the larger portion of disease incident to this viscus, they will necessarily command most of our attention. While inflammation of the bile-passages and gall-bladder occur independently of cholelithiasis, the inflammatory changes are by far the most frequently met with as complications of gall-stones. In the discussion of this subject, therefore, it is desirable, first, to take up the consideration of gall-stones; and the inflammatory diseases of the gall-bladder and its ducts will be considered in their natural sequence as complications and sequelæ.

The frequency of gall-stones has been variously estimated, Mosher placing it at about 10 per cent for America, about the same ratio of frequency as is shown by statistics from England.

The origin of gall-stones has always been a subject of great interest, and many theories as

to their causation have been advanced. The aid which chemistry and bacteriology have lent in the elucidation of this subject, has overthrown many of the theories formerly held, and with the additional light which experimental pathology has thrown upon this subject, we are now in a position to follow to their logical sequence, with some degree of certainty, the various steps by which these curious formations develop, as well as to interpret intelligently the various pathological changes which take place in the gall-bladder and bile-passages.

We are especially indebted to Naunyn and his pupils for much of the knowledge which we possess as to the formation of gall-stones, and he was the first to give us an intelligent classification based on their chemical constituents. Naunyn classifies gall-stones as follows:

1. Pure cholesterine stones, crystalline, spherical, pure white or yellowish color, sometimes containing a small brown deposit in the center.
2. Laminated cholesterine stones arranged in layers, usually quite solid, and fissured which crack on drying. Surface varies, and they are usually faceted. In addition to cholesterine they often contain small quantities of bilirubin and bilirubin-calcium with considerable carbonate of calcium.
3. Ordinary gall-stones of different sizes, shape, and color, rarely larger than a cherry; faceted; of brown, white, or greenish color. When fresh they are soft; when dry their shell is hard, but does not fissure. They contain no crystalline structure. To this class belong the greatest number of gall-stones.
4. Mixed bilirubin stones. Size as large as a cherry or larger. They occur singly or in numbers of two or three. They are arranged

*Read before the Minnesota State Medical Association, August 13 and 14, 1907.

in layers and contain about 25 per cent of cholesterine, while the remaining portion consists of bilirubin-calcium.

5. Small stones consisting of bilirubin-calcium. Very small, not larger than a grain of sand or a pea. Naunyn mentions as rarer varieties (a) amorphous and incompletely crystallized cholesterine stones; (b) chalk stones that are very hard and are composed chiefly of carbonate of calcium; (c) conglomerate stones; and (d) casts of the bile-passages.

It will be observed that cholesterine plays a very important rôle in the formation of gall-stones, being the most important chemical constituent. It was formerly believed that cholesterine was present in the bile in large quantities after the ingestion of considerable fat, but Naunyn and his pupils have shown that such is not the case. The consensus of opinion to-day is that cholesterine, as well as the calcium salts which enter so largely into the formation of gall-stones, has its origin in a pre-existing diseased condition of the epithelial cells lining the gall-bladder.

The investigations of Naunyn have thrown much light on the process involved in the formation of gall-stones. According to that observer the process is somewhat as follows: The bile in the gall-bladder always contains some desquamated epithelial cells, which, as a rule, show no degenerative change. In old people or in persons debilitated from disease, at the autopsy it will be found that these desquamated cells are in a state of fatty degeneration. Within the desquamated cells may be seen droplets of myelin. These collections of myelin leave the cell conglomerate, and form little balls which form the nuclei of gall-stones. They consist chiefly of cholesterine.

Occasionally, gall-stones may also originate from the bile sediment: the contraction of the gall-bladder may force out the bile and compress the sediment into small masses, which subsequently become infiltrated with cholesterine, and this accounts for mixed stones.

What now causes the primary catarrhal condition of the gall-bladder which gives rise to the increased production of cholesterine? Two theories have been held: First, that it is due to certain irritant principles contained in the bile, while the second attributes it to bacterial infection. Much stress has been laid on the stasis of bile as an etiological factor in the production of the primary catarrhal condition of the gall-bladder, and there can be little doubt of the importance of the rôle which stasis plays. Results of investigations at hand, however, lead rather to the conclusion that the chief rôle played by stasis is the fact that it favors invasion by bacteria which must be regarded as the real causa-

tive agents in the vast majority of gall-bladder disease. It was formerly believed that the bile possessed antiseptic properties, but it has been shown that bacteria are capable of growth in a culture medium of bile, though not so luxuriantly as in bouillon. Furthermore, it is not uncommon to find bacteria in the gall-bladder of animals, as well as of man. Mieczkowski, for example, found the bile bacteria in 15 cases on whom he operated for conditions other than gall-stones, while in 18 out of 33 cases in which gall-stones were present, the bile contained bacteria. It may therefore be accepted as an established fact that in health the gall-bladder is usually sterile; in the presence of cholecystitis, no matter how mild in type, or of gall-stones, it is usually infected. Quite a variety of bacteria have been found in the gall-bladder, most frequently the colon bacillus and the bacillus typhosus, less commonly the streptococcus pyogenes, the staphylococcus, and the pneumococcus.

The question as to how bacteria gain entrance to the gall-bladder has given rise to much speculation, and two avenues have been suggested as probable paths of invasion: one by the blood-current, and the other by direct invasion from the intestinal tract through the common duct. It is conceivable that infection may take place through the portal circulation by way of and through the bile-channels, through arterial channels by arterial circulation direct to the gall-bladder, or the infection may ascend directly from the intestinal tract, through the ducts into the gall-bladder. The fact that the colon bacillus is the most common invader and that its normal habitat is the intestinal tract, lends support to the theory of ascending infection which has lately been gaining adherents. In case of infection by other bacteria, as, for example, by the bacillus typhosus and the pneumococcus, the theory of ascending infection is less plausible. It is a well-known fact that in systemic infection by both these bacteria, the organisms are found in the blood, but Sherrington has shown that bacteria, though swarming in the blood, cannot pass through the normal liver tissue. In patients dying of typhoid fever, however, focal areas of necrosis are found in the liver, as well as colonies of the bacillus typhosus. With these conditions present it is highly probable that the bacteria may escape into the bile-ducts of the liver, and find their way into the gall-bladder. On the other hand, ascending infection from the intestinal tract is by no means impossible; indeed, Carmichael argues in favor of direct extension from the intestines up the common bile-duct for the bacillus typhosus, and no less an authority than Quinck supports the ascending-infection theory. It is argued by the supporters of this theory that duodenal catarrh from an improper diet so multiplies the bacteria

in this portion of the intestinal tract that, if favorable conditions for their ascent is furnished, as for example, stasis of bile, the bacteria may readily invade the ducts and the gall-bladder. It has been shown that the introduction of bacteria into the gall-bladder of a susceptible animal produces varied phenomena. If the bacteria are very virulent the result is an acute cholecystitis, which may be catarrhal or suppurative in type, the intensity of the process depending upon the number and virulence of the bacteria. If the infection is very intense the result may be necrosis of the gall-bladder wall with perforation or gangrene, producing a rapidly developing peritonitis. If the infection is less intense, a supuration of the gall-bladder may result, which may terminate in resolution or in the formation of an empyema of the gall-bladder. In case the bacteria are still less virulent there results an acute catarrhal inflammation, with more or less round-celled infiltration of the mucosa, which may terminate in recovery or become chronic. If still less virulent bacteria, as, for example, if attenuated colon bacilli or the bacillus typhosus, be introduced into the gall-bladder they excite nothing more than a mild catarrhal cholecystitis with slight increase in the secretion of mucus and very minor changes in the epithelial lining. It is this condition which concerns us, especially in the study of cholelithiasis, since it has been shown that this is the almost invariable precursor of gall-stone formation, while it is said that the more acute infections never lead to the formation of gall-stones. It must be remembered, however, that acute cholecystitis is by far the most frequently met with as a complication of gall-stones. Murphy states that in 74 per cent of the cases of empyema of the gall-bladder gall-stones are present.

This increased tendency to acute infection in the presence of gall-stones is explained by the lowered resistance and by the stasis of bile. Such acute attacks depend upon either reinfection of the gall-bladder by the fresh introduction of virulent bacteria, or from an increased virulence which attenuated bacteria already present may take on from lowered resistance of the patient, and frequently no doubt in the more favorable conditions furnished for their growth by the stasis of bile. It is further believed that violent contractions of the gall-bladder, as in case of colic, may produce slight trauma of the mucosa of the gall-bladder, thereby facilitating the growth of bacteria. This, in all probability, explains the inflammatory phenomena which so often accompany or follow attacks of gall-stone colic.

The pathological changes found in the gall-bladder in the presence of gall-stones are very various. Gall-stones are frequently found at the

autopsy entirely unsuspected, never having given rise to any symptoms, and in these cases the gross appearance of the gall-bladder seems entirely normal. In fact in the vast majority of instances it is the inflammatory changes in the gall-bladder that sooner or later occur which usually make their presence known. In acute infection we may have an intense inflammation of the gall-bladder with necrosis or gangrene or a suppurative inflammation with resulting empyema. The most marked changes, however, occur in chronic inflammation. Here the wall of the gall-bladder becomes thickened and tends to contract, and the pressure of the stones may produce ulceration with perforation. Ulceration is, however, much more common in the ducts, especially the cystic duct, and results from impaction of the stone. If later the stone becomes dislodged and passes on, or falls back into the gall-bladder, stricture may result from contraction of the cicatrix left by healing of the ulcer. Occlusion of the cystic duct produces the following phenomena: First, the gall-bladder becomes distended with bile before the occlusion is complete, the bile being able to flow into the gall-bladder, but being obstructed in its outward flow. If the occlusion is complete the bile is absorbed and the gall-bladder slowly shrinks, its walls become thickened, and this process may practically obliterate the gall-bladder, so far as its function is concerned. If the occlusion of the cystic duct is not complete, as from a small stone or stricture, a chronic dilatation of the gall-bladder may take place, and the gall-bladder may reach a surprising size. Under these circumstances the walls become very thin, and owing to the atrophy of the muscular coat the gall-bladder is unable to empty itself.

Occlusion of the common duct is by no means uncommon, and is usually due to the lodging of a stone in its lumen. The most serious consequence is the production of jaundice, which, if not relieved, may lead to cholemia and death of the patient. Inflammation of the gall-bladder gives rise to numerous complications, which, owing to the serious menace to the life of the patient which they constitute, must be mentioned here.

Acute infection of the gall-bladder, whether associated with cholelithiasis or not, frequently sets up a localized peritonitis about the gall-bladder with the formation of adhesions, which may give rise to most troublesome symptoms, while perforation of the gall-bladder or rapidly developing gangrene may even light up a fatal peritonitis. In case of very intense inflammation the infection may extend to the liver and produce abscess or cholangitis, or it may extend to the pancreas and set up a hemorrhagic pancreatitis with its fatal consequences.

Gall-stones may migrate from the gall-bladder or ducts, and find their way into other organs or viscera. They have been in the liver, and fistulous tracts between the gall-bladder or its ducts and the intestine have been repeatedly found, notably to the duodenum, stomach and colon. There is little doubt that the long-continued presence of gall-stones, with the resultant inflammatory changes in the gall-bladder, predisposes to the development of carcinoma; in fact, almost all observers are unanimous in the belief that cholelithiasis strongly predisposes to the development of carcinoma.

Practically, all the symptoms incident to disease of the gall-bladder and its duct are at some time in evidence in cholelithiasis. As long as gall-stones remain in the gall-bladder they may give rise to few or no symptoms, and it is only when efforts are made by the gall-bladder to expel the stones that the first symptoms become manifest.

In some instances, however, previous to an attack of colic there are disturbances of digestion and a sense of uneasiness or weight, at times amounting to dull pain in the region of the gall-bladder. Attempt at passage of the gall-stones is productive of symptoms so characteristic that their meaning can scarcely be mistaken. The most characteristic symptom of gall-stone colic is pain. The pain is paroxysmal and very intense, located over the region of the gall-bladder, but radiating in all directions, chiefly along the distribution of the phrenic and sympathetic nerves. Vomiting usually accompanies the pain, and, as a rule, is very violent and may be persistent. At first the vomitus consists of remnants of food and mucus and, later, of bile. The pulse is usually slow at first, and the temperature in the absence of complications is normal. In some instances the patient complains of chilliness or may have a pronounced chill in the course of the attack, followed by a slight or even a pronounced rise of temperature. The fever is usually transitory, subsiding after a few hours. If it persists it is indicative of a severe inflammation of the gall-bladder, and may signify supuration. In the majority of instances the attack is unaccompanied by jaundice, but frequently a slight icteroid tinge of the conjunctiva or even the skin is noticeable at the conclusion of the attack.

Pronounced jaundice occurs only in case of obstruction of the common duct, while the lesser degrees of jaundice are probably due to a catarrhal condition of the ducts. At the conclusion of the attack the patient is left with marked soreness in the region of the gall-bladder, which, in the absence of complications, disappears after a few days.

Acute cholecystitis complicating gall-stones is

characterized by the intensity and persistence of the symptoms of pain and tenderness after the paroxysmal pain has passed. The outwandering of bacteria excites a localized peritonitis of varying intensity and extent. Acute cholecystitis in the absence of gall-stones is characterized chiefly by pain in the region of the gall-bladder, which lacks the paroxysmal character of gall-stone colic. Adhesions of the gall-bladder to surrounding viscera following peritonitis give rise to more or less constant pain in that region and often seriously interfere with the digestion.

Empyema of the gall-bladder is usually attended with tenderness and a sense of discomfort in that region, and, if the infection is acute, with an elevation of temperature.

FOR DISCUSSION SEE PAGE 442

THE MEDICAL TREATMENT OF GALL-BLADDER DISEASE

BY M. K. KNAUFF, M. D.

TWO HARBORS, MINN.

In considering the medical treatment of gall-bladder disease we have to deal only with a catarrhal inflammation of the bile-passages and an acute catarrhal or suppurative inflammation of the gall-bladder or ducts. If gall-stones are present and produce symptoms, the case becomes one for major surgical treatment and should be submitted to operation. Some cases with only small stones present may be permanently relieved if medical treatment is pursued intelligently and persistently. The dictum will not hold in this condition, as in appendicitis, that all medicine is futile.

The treatment may be divided into

1. Preventive.
2. Medical.
3. Possible medicinal injections in selected cases.

It seems to be generally accepted that the stagnation of bile in the gall-bladder and passages is the primary factor and predisposing cause for the formation of calculi and the resultant conditions. Following this, infection may take place and cause a more serious complication, with increased dangers. Emptying of the gall-bladder is therefore important and may be brought about by exercise or internal medication. The best exercise is horseback riding, but tennis and bowling are also recommended as stimulating the circulation and assisting the flow of bile. A course of baths at the mineral springs is advocated by some, and, it is claimed, has yielded happy results; these baths, however,

should be continued for some months. In short, if there is a tendency to this condition, hygienic treatment and diet should be resorted to, and thus stasis may be prevented.

Various diets are prescribed, but, in general, all starches and sugars should be avoided, as they tend to concentrate the bile. Alcohol does not seem to be a predisposing factor, for in a series of many cases the proportion among brewers is not exceedingly high. Large quantities of water should be taken, or, more preferably, alkaline mineral water, an hour or so before meals. Krauss states that the best water is the Carlsbad, which should be taken as hot as can be borne. This should be followed by Sprudel salts for free evacuation. With this treatment, he states, small stones may also be passed.

The medicines used for gall-stone and allied conditions are as varied as the symptoms, but calomel, ox gall (5 to 10 grs.), sodium phosphate and sulphate, magnesia sulphate, and sodium salicylate seem to have some action in promoting the flow of bile. The medical treatment is considered by many to be barren of results. However, much may be done to relieve the acute catarrhal symptoms, to lessen the infection, and occasionally stones may be passed.

If we can eliminate or control the infection and promote the flow of bile, stones may remain in the gall-bladder and the patient still have relief. If this can be done for a long enough period the gall-bladder may contract down, obliterate the cystic duct, and a permanent cure result. If there is infection it should be treated the same as infection in any other part of the body. Rest in bed, hot fomentations over the gall-bladder if much pain, or an ice-bag used intermittently, and morphine used judiciously for the pain or colic, are routine treatment. The stomach and upper bowel should have complete rest from food, and, if necessary, there should be rectal alimentation. The continued use of some saline cathartic, especially magnesium sulphate, in small doses, three times daily, combined with large quantities of hot water, will serve to keep the stomach and bowels clean and promote the flow of the bile. At the same time any cholagogue may be given, such as sodium phosphate or glycolate, thus attempting to thin the bile and preventing any further crystallization of bilirubin or cholesterol. These results are only possible where there is a mild infection. Krauss, however, states that the Carlsbad cures give the most favorable results upon the course of any gall-bladder inflammation and that he has seen even dangerous impactions of gall-

stones terminate favorably under this persistent treatment.

The treatment with olive oil is not as popular as formerly, but is not used without reason. Robson states that alkaline waters will not dissolve gall-stones, but when the latter are placed in olive oil and allowed to stand for two days, the stones will lose about 60 per cent of their weight. Olive oil should be given two or three times daily—about 2 to 8 ozs.—and continued for some time to obtain results. Plenty of hot water should be given previous to the oil, with an occasional calomel and saline purge. It has been claimed by some that the oil has a more direct action on the liver if injected into the lower bowel.

Along the same line, Dr. C. G. Davis, surgeon to the Cook County Hospital, states that in catarrhal cholangitis, with and without stones, he has had excellent results with the following formula:

Acid sodium oleate.....	1	gr.
Salicylic acid	1½	gr.
Menthol	1	gr.

One capsule three or four times daily. First, one calomel purge is given, followed by the formula, and this by copious draughts of hot water. The acid sodium oleate and the salicylic acid, he claims, are excreted by the epithelial cells lining the bile-ducts, and assist in disinfecting the tract. The menthol is a disinfectant, and the oleic acid also acts as a partial solvent. This treatment should be continued for at least a month. Coming from one who is competent and interested in surgery, this should carry weight.

There are some gall-bladder cases which are possibly amenable to medical treatment by injection and aspiration. The practice of probing for stones is universally condemned as dangerous, but where we have a greatly distended gall-bladder, a fistulous opening through the abdominal wall, or an inoperable condition, it might be possible to aspirate and inject the gall-bladder with a weak solution of argyrol or sterile olive oil, thus preventing the formation of stones. We aspirate nearly every other cavity of the body, and if the landmarks of the gall-bladder were made more certain, we should be able to do the same here with impunity. Morris reports a case which was operated upon, and it was impossible to remove a large stone; through the abdominal fistula the gall-bladder was daily injected with olive oil, and after considerable time the stone was passed and a cure resulted.

THE SURGICAL TREATMENT OF GALL-BLADDER DISEASE

BY JAMES E. MOORE, M. D.

MINNEAPOLIS

This topic, assigned to me, presumably refers to the condition incident to the presence of gall-stones. Although the practical surgical treatment of gall-stones began within the recollection of a number of those present, the subject has been so extensively discussed that it may seem trite. But we have yet a great deal to learn, for many cases are still neglected until the elective period for safe and sane surgical treatment has gone by, so that the surgeon is often called upon to make an effort to save the patient's life under conditions where the operative mortality is appalling.

Although the presence of gall-stones in about ten per cent of autopsies has been known for a long time, their real pathologic significance was not well understood until after the development of abdominal surgery. It remained for the surgeon to demonstrate upon the living subject that many symptoms in the upper abdomen formerly attributed to other causes, are due to the presence of gall-stones.

Physicians have long recognized gall-stones as the cause of biliary colic and have endeavored to find some solvent for them, but without success. Many drugs have been popular for a time, but have been found wanting, and doubtless many more will be added to the list only to lead to farther disappointment. It has been clearly demonstrated that in this, as in other diseases due to mechanical conditions, the only curative treatment must be mechanical. It has not been demonstrated that medical treatment ever cured a case of gall-stones, but many have been so palliated that surgical treatment has been considered unnecessary. It is not yet accepted that because medicine fails to remove the stones all patients known to have gall-stones must be subjected to surgical treatment, for it is believed that they often remain for years without causing symptoms. This idea prevailed when colic was the only recognized symptom of gall-stones, but now that it is known that many patients are suffering from gall-stone disease who have never had colic, operation is no longer considered the last resort, and it can no longer be so positively stated that many persons carry gall-stones for years without symptoms, for the probability is that they have caused symptoms which were attributed to other causes. All concede that operation is the only proper treatment for gall-stones when the patient is suffering from frequent or severe attacks or obstructive symptoms. The consensus of surgical opinion is that operation should be

resorted to before these conditions obtain, and each year a larger number of physicians are adopting this same belief.

There is a class of patients who have never had characteristic gall-stone colic but who are nevertheless suffering from gall-stones and require a surgical operation for their relief. These patients are usually classed as chronic dyspeptics. They have pain after eating, but without vomiting or other characteristic symptoms of gastric ulcer. They are often awakened after midnight by severe epigastric pain. They suffer from constipation and intestinal indigestion. There is loss of weight and a general condition of ill health so that malignancy is often suspected. Many of them have chronic appendicitis, and many others have this diagnosis made and have a normal appendix removed without relief of the symptoms. The failure to bring about a complete cure by operation in some cases of chronic appendicitis is due to the fact that the patient is also suffering from unrecognized gall-stones. When a positive diagnosis cannot be made for patients suffering from this train of symptoms, and when they cannot be cured by diet and medicine, gall-stones should be suspected, and an exploratory operation advised. This is surely a rational position, because when the patient is suffering and medicine fails to relieve he certainly is entitled to what surgery has to offer. I have had the courage of my convictions in this matter and have never failed to find some surgical condition when I opened the abdomen. It is a great credit to the profession that many of these cases are now referred to the surgeon by internists with a positive diagnosis and recommendation for surgical treatment. It is in this class of cases we can make our greatest advances in diagnosis and treatment.

It is generally believed that patients suffering from chronic appendicitis should be operated upon to restore them to health and to avoid the dangers of an acute attack. It is equally important that those suffering from gall-stone disease should be operated upon, because there is no hope of cure without it. They often suffer a greater degree of ill health than from appendicitis, and if neglected they are liable to grow progressively worse until an operation becomes imperative and at the same time dangerous. The comparison between these two diseases is a just one in every way save that while in appendicitis the diagnosis is comparatively easy, in gall-stones without colic it is sometimes very difficult. In cases where ill health is persistent in spite of treatment, exploratory operation should be unhesitatingly advised because in good hands it is practically free from danger and pregnant with possibilities for good. As in most surgical conditions the earlier operative treatment is resort-

ed to the better, for in early cases the removal of gall-stones is a very safe operation, while in late cases it may be very grave indeed. In every case of exploration for suspected gall-stones the appendix should be examined, for chronic gall-stone disease and chronic appendicitis are very frequently confounded, and they are very commonly associated. It has often been said that the mere presence of gall-stones is not an indication for operation, for many persons seemingly in perfect health have gall-stones; but this is a false doctrine no longer tenable, for those known to have gall-stones during life must have had symptoms to indicate their presence, and when they are first recognized, post mortem, it does not prove that they were harmless, but it does prove that we have been lacking in diagnostic skill.

The operation of cholecystotomy before complications have developed, is very simple and safe, but after the stones have invaded the common duct and other parts, and infection is present, the percentage of mortality is very high, varying from ten to twenty-five per cent in the hands of different operators. The safety of surgical treatment therefore depends upon early diagnosis promptly followed by operation. Early surgical treatment is advocated by all experienced surgeons. There are three principal reasons why this doctrine is not as universally accepted as it should be: First, there are a few benighted ones who are still searching for a solvent; second, diagnosis is often difficult and sometimes impossible without exploration; and, third, our past mortality-rate is unjustly based upon late operations. With early diagnosis operations for stones in the gall-bladder are no more dangerous than the interval operation for appendicitis, which is practically nil.

However, the time for operation is not always as soon as the diagnosis is made. Suppuration and perforation demand immediate operation, but it is rarely advisable or necessary to operate during an attack of colic or in acute jaundice. Operation in the presence of jaundice is so dangerous, even in the hands of the most skilled surgeons, that it is unjustifiable until it has been demonstrated that nature is unable to relieve the condition. We are sometimes obliged to operate in chronic jaundice, but we should not consider it chronic until after six weeks or two months. In cases of colic and acute jaundice, we should wait until these symptoms have disappeared, and then we should urge operation in the interval. The fact that the patient has had a previous attack followed by a long interval should not be used as an argument against operation, for the next interval may be much shorter and the stones may, at any time, be advanced to the common duct, changing a comparatively simple condition into a grave one. In chronic cases with

obstructive symptoms there is usually nothing to be gained by waiting, because the patient has already waited too long.

The so-called ideal operation for gall-stones, that is, operation without drainage, is anything but ideal. Drainage is essential for the cure of the accompanying inflammation, and since, with our present technic, biliary fistula does not occur there is no important objection to it. In chronic cases with obstructive jaundice our success depends upon the establishment of satisfactory drainage. In these cases there is secondary cirrhosis of the liver, and the sudden relief of pressure may cause complete suppression of liver function, just as we may have anurea in operations on the genito-urinary tract. When this function does cease it is less liable to be restored than the kidney function under like conditions. Another great danger in these obstructive cases is hemorrhage, due to the changes in the blood and the cirrhotic liver. The hemorrhage at the time of operation is seldom serious, but it begins from three to ten days after the operation, and in my experience has always been fatal. Dr. Howard Lilienthal (*New York Medical Journal*, May 18, 1907) has recently advocated gradual drainage for chronic obstructive jaundice, thus avoiding too sudden relief of hepatic tension. Where the size and condition of the gall-bladder permit, he recommends that simple cholecystotomy with a small opening be performed as a temporary measure and that the radical operation be deferred until conditions become more favorable. This is doubtless a valuable suggestion, but, unfortunately, the gall-bladder is very often so changed that it cannot be done. Lilienthal believes that our mortality in choledochotomy would be reduced one-half by performing the operation in two stages. He concludes that "drainage should form the sole object of the surgeon's work until the factor of cholemia has been eliminated," and that "the radical operation should, in most chronic cases, be postponed until hepatic engorgement and icterus no longer exist." Various drugs have been recommended to obviate the danger of hemorrhage, but they are to say the least of doubtful utility.

It was thought at one time that inasmuch as the gall-bladder is a comparatively functionless organ it might better be removed, to prevent the recurrence of gall-stones, but gall-stones rarely recur, and cholecystectomy is accompanied by a greater mortality-rate than cholecystotomy and should therefore not be adopted as a routine. The increased mortality following cholecystectomy is doubtless due to the lack of the perfect drainage following cholecystotomy. In this respect the gall-bladder cannot be considered analogous to the appendix. It, however, can be aptly compared to the uterus, and, like that organ, should

be removed when its function is destroyed and when it is diseased so that its presence would be a menace to health.

The technic of simple cholecystotomy is so perfect and so well understood that very little need be said concerning it. When the gall-bladder can be attached to the peritoneum without tension it should be done with a running catgut suture, but when it cannot be brought up easily it is safer and better to fasten it snugly around the drainage-tube with a purse-string suture and allow it to drop back into its normal position, depending upon the drainage-tube to carry the bile to the surface. When the bladder is dropped back I believe that a tube surrounded by gauze and finally by rubber tissue, as suggested by Dr. Mayo, is safer, because the compressibility of the gauze enables one to fit the opening in the viscus so closely around the tube that leakage is impossible. In these early cases the tube need not be left more than six or eight days, or until the drainage of bile has been well established. In every instance the peritoneal surface of the gall-bladder must be turned in toward the tube to avoid biliary fistula. Chronic catgut or unabsorbable sutures should not be used to fasten the tube in place, for they would interfere with its early removal. By conducting the discharges through a long tube into a bottle, frequent changes of dressings can be avoided and the patient's comfort very materially increased.

In cholecystectomy I feel safer when I employ peritoneal drainage by means of a cigarette-drain, because in several instances a leakage of bile has occurred in spite of my best endeavors to prevent it.

When we first began to remove stones from the common duct the operation was one of extreme difficulty, but since Mayo Robson taught us to bring the duct to the surface by rotating the liver, choledocotomy is comparatively easy. It is of the utmost importance in operations upon the common duct to pack thoroughly with gauze before opening the duct, because the bile is very commonly septic. While it is doubtless true that, in some of these cases, the opening in the duct could be closed up tight with favorable results, it is undoubtedly true that most of them require drainage. I believe therefore that drainage should be established in every case. A good-sized rubber tube should be passed into the proximal end of the duct and fastened there by a catgut purse-string, as in simple cholecystotomy. Peritoneal drainage should then be provided for by means of a good-sized cigarette-drain. The peritoneal drain can be removed in a very few days, or as soon as nature has formed a sinus down to the opening in the duct. Prolonged drainage of the duct is sometimes necessary, but

in favorable cases it can be dispensed with in one or two weeks.

Choledocotomy is still an operation accompanied by a very heavy mortality, and probably always will be, no matter how perfect our technic, because of the serious character of the pathological conditions present. It is to be hoped therefore that early operations may become so popular that we shall rarely be called upon to perform it.

At a time when choledocotomy was very difficult and dangerous it was hoped that the establishment of a communication between the gall-bladder and an intestine might meet the indications, and cholecystenterostomy was given a trial. It was disappointing, however, because the exciting cause of the trouble still remained. This operation has still a limited field of application in otherwise inoperable cases and in cases in which stricture of the duct follows choledocotomy.

DISCUSSION OF THE THREE PRECEDING PAPERS

DR. HARRY P. RITCHIE (St. Paul): Not even the great problems in diagnosis are more serious than that of gall-bladder removal, and it is with our pathological knowledge of the several degrees of inflammation and our surgical judgment during the operation that the decision rests. The question involves the possibility of a second operation soon after the first, with its increased difficulties and dangers because of fistula or a continuation of symptoms. On the other hand, a too hasty removal of a gall-bladder, which may still functionate, deprives the patient of an organ which surely plays an important role in the physiology of digestion. Although the operation for cholecystectomy antedates that of the appendix by several years, it is only within recent time that its full value has been appreciated. So frequently does discussion as to the disposition of the organ then under inspection, occur, that it often is the most important question of the operation.

During my service with Dr. MacLaren I have had to do with one hundred and ten cholecystectomies. The problems of technic, which, during the earlier years, seemed to be paramount, have now settled into almost routine methods; in fact, our great surgeons have, from time to time, suggested methods to meet almost any emergency, and not only described them graphically, but presented pictures and plates so that there is no lack of information.

First, it was the question whether the gall-bladder should be sewn to the parietal peritoneum or 'dropped back'; the technic of drainage; the method of choledochotomy of the first and second parts; McBurney and Kocher's suggestions as to transduodenal choledochotomy; Hassler's retroduodenal peritoneal dissection for reaching the third part. We have learned of the possibility of drawing subphrenic abscesses through the pleural cavity. Mayo and Robson have explained their procedure for exposure of the common ducts and numerous other details of technic which are generally used, so that actual operating methods are reaching standardization. The future cannot show great advance along these lines, except as to the fine details, and we must look for progress in our pathological studies, and by our records and subsequent histories attempt to classify those conditions which demand removal of this structure.

It is a different problem from that of the appendix

with which I have seen some comparison, because the gall-bladder has a function. The inflammations are usually of a different character, and although perforation of the gall-bladder is of more frequent occurrence than usually supposed, by reason of its position, character of inflammation, and protection, it is not productive of such possibilities for fatal results as the appendix, and it is in this fact that medical treatment finds its justification. But it seems to me that the removal of foreign bodies, just as the repair of hernia and lacerations are among our most positive of surgical indications. I also believe that our difficult operations and mortality are due as much to neglected cases, and complications due to neglect, as in the acute inflammation, suppuration, and gangrene cases.

Within the past two years several writers have made classification of conditions demanding removal. Robson presents the following:

1. Cancer and other new growths where disease is local.
2. Contracted and useless gall-bladder resulting from cholecystitis.
3. Dilated and hypertrophied gall-bladder from obstruction in the cystic duct:
 - (a) Always, if stricture;
 - (b) Usually, if resulting from impacted stone which has induced ulceration that will subsequently lead to stricture.
 - (c) Usually, if resulting from kinking of duct or from adhesions.
4. Phlegmonous and gangrenous cholecystitis.
5. Empyema of gall-bladder.
6. Calcareous degeneration of gall-bladder.
7. Numerous fistulae from stricture.
8. General cholecystitis.

Erdman gives the following contra-indications:

1. Perforations into other viscera when difficulty of closure of anastomosis is great.
2. Perforation of supination variety when adhesions are extensive and when life would be jeopardized by such radical measures.
3. Malignancy when extensive.

Cholecystectomy was suggested in several papers during the past few years for many border-line conditions. Robson, in his last article, has protested against this wholesale enucleation of this organ without definite pathological cause.

One of the arguments is the possibility of carcinomatous degeneration. While the cause of cancer has not been demonstrated, it is well known that such changes take place in structures devitalized by trauma. We had lately one case of a woman who had multiple stones removed seven years ago. A second operation was done in two months to remove a stone in the common duct which had been left. She was perfectly well and free from attacks until last month when she came to us, and we found a carcinoma of the gall-bladder. I believe that this was a gall-bladder which could be removed to-day, and if done at that time would have saved her from this fatality.

The reasons for removal in our eleven cases, in which I have been associated with Dr. MacLaren, are as follows:

Stricture demonstrated at first operation.....	1
Stricture demonstrated at first operation plus stone in the common duct.....	1
Perforation of gall-bladder into duodenum.....	1
Contraction due to cholecystitis.....	3
Second operation in a man whose first operation was opening a large peritoneal abscess.....	1
Gangrene	1
Fistula due to kinking and adhesion.....	1
Stricture plus empyema.....	1
Empyema	2

The two cases of empyema died; the first one a

woman of sixty of such debility that the operation was questionable; the second rather due to an accident in proper drainage than any usual effect from the operation.

It surely is a great problem and one in which no fast lines can be drawn, and the decision rests with the individual operator and the conditions of the case. The indication of bile in the gall-bladder is taken by us as a good indication for leaving the organ.

So far as can be seen by the above cases no one has been removed without very desperate pathological cause, and only twice has a second operation been necessary to remove the gall-bladder, and I think it is our feeling now that it should not be removed, because it has been demonstrated that we can get along without it, or simply for fear of future trouble.

DR. J. W. ANDREWS (Mankato): I have been much interested in these papers and this thought came to me: We have heard two papers on the therapeutics of gall-bladder disease,—one on the medical therapeutics and the other treating of the surgical therapeutics. I am a general practitioner myself, and I have very closely studied the medical therapeutics of gall-stone or gall-bladder disease. I have used them, not so much of my own choice, but because of the choice of the man who wants them. I have never had a single good result I could tie to. I have never got a result I could say was a good result from medical treatment. I believe that olive oil and phosphate of soda are absolutely useless in the treatment of gall-stones.

As I have so short a time to speak I want to emphasize two thoughts brought out by the writers of the papers. One is the danger of operation when jaundice is present. We are too likely to feel, after our patient has been jaundiced for some time and clears up, that that patient is a safe one upon whom to operate because the jaundice has disappeared. Let me tell you this, and I know it by much experience: We must wait for weeks after we think the skin is thoroughly clear before we can operate with safety. Not many months since I had a case of continuous jaundice with good evidence of common-duct obstruction. I thought I would divide the operation. I opened the abdomen, brought up the gall-bladder in the usual way, and drained for four or five weeks. The patient seemed to recover perfectly, and yet a little yellowness remained. Not wishing to take the responsibility of removing the stones, I called in my good friend Dr. Moore, and he removed a large stone from the common duct. The patient improved for three days and then began to have hemorrhage. It was not possible to stop the hemorrhage, and the patient died. Ten days ago I operated on a similar case. After the stone had passed from the common duct the jaundice began to clear up, and the family thought it was perfectly clear. I thought there was still some trouble present after the stone had passed the common duct, and I removed from that patient fifty stones from the size of a half grain of corn to the size of a grain of corn. Of course, after I explored the common duct thoroughly I felt sure that there was no stone there. I did the operation in the usual way, and we have had a serious time because of the hemorrhage from the external wound, but we have controlled it, and the man is convalescing. But I am afraid where there is the least jaundice, especially if long continued.

DR. ARCHIBALD MACLAREN (St. Paul): There are some points in the papers of more than ordinary interest, it seems to me. When we consider the source of infection in gall-bladder inflammations we must believe that a large majority of inflammations come through the blood-current, because, if they came up through the intestine into the bile-tract, there is more reason why we should have inflammation of the pan-

creas than of the gall-bladder, for it is nearer and there is just as much stasis, yet it is the exception to see inflammation of the pancreas. In my own experience I have had several cases of inflammation of the gall-bladder complicated with pancreatitis, and in these cases we generally had a history of the passage of the stone through the common duct, so there has been a temporary plugging up of the bile current which causes an inflammation of the pancreas. There is no reason why in coming up from the intestines inflammatory products should not get into the pancreas as well as into the gall-bladder.

Dr. Andrews and others have made a point regarding the danger of hemorrhage in jaundice cases. I believe it does occur. Fortunately, I have not had a large experience; I suppose I shall get it.

I do not operate on acute cases of jaundice; I pass such a case on to the interval if possible. I have operated in several cases that have had jaundice for a long time, but I have seen only one case of hemorrhage myself. I give calcium chloride. I do not believe it accomplishes much, but it just happens that it is advised, and it does no harm. I think it is like a good many other drugs: we cannot prove one thing or another.

In regard to the danger of perforation: Some time ago in looking over my cases I found that in seventy-five cases there were ten cases of perforation, either through the duct or the gall-bladder. There is no question but what gall-stones should be removed after a reasonable period of time after diagnosis has been made. On the other hand, I remember one case in particular that cured itself by the passage of twelve stones. That man lived twenty years after his last attack and then died from some other disease.

DR. JOHN T. ROGERS (St. Paul): It has been my experience during the last fifteen years to see fewer and fewer complications from gall-stones, and I feel that it is the case, as you heard it demonstrated by Dr. Moore, that gall-stone is a disease now more frequently recognized. It is rare in my experience to see those terrible complications, whereas fifteen years ago we frequently operated on cases where the mortality was great as the result of delay in operating.

I believe that as a field for prophylactic surgery gall-stone disease equals that of appendicitis. I do not believe every case of gall-stones should be operated on, but I believe cases should be studied and we should select those cases carefully and ascertain any possible complications other than gall-stones by getting behind the symptoms of the patient. If we operated in every instance where gall-stones presented themselves it would not be proper, because it is a common condition, and in many cases reported the gall-stones might be in the ducts. But there is a great deal of prophylactic surgery, and it is the opinion of the medical men that those cases should be operated upon where the symptoms persist.

In regard to Dr. Moore's statement that in all cases the common duct should be drained, I think, as a rule, that is true, but occasionally we find that there is a single stone and the duct otherwise is patulous, and we can see no particular reason for draining the gall-bladder, so I can see no particular reason for draining in every case. It has been my practice to drain. In one case I had a very patulous duct and I saw that the duct was drained perfectly. The whole subject of gall-stone surgery resolves itself into the question of drainage. We drain the gall-bladder for the purpose of getting rid of that which produces the disease, but if the common duct is properly drained I see no reason why we should not let it drain naturally.

In regard to cholecystectomy: The mortality is little more than by the other method, but I select those cases with the utmost care, for I believe the gall-bladder has a function, and even in the case where it

is removed nature attempts to form a gall-bladder out of the common duct.

DR. W. H. MAGIE (Duluth): Concerning the advisability of removing the gall-bladder, Dr. Rogers has made the statement that the majority of cases in his practice need little more than simple drainage. Some years ago I was inclined to remove the gall-bladder a great deal oftener than I do now. I have removed the gall-bladder in nine or ten cases. The first few were successful; then I had a case I operated on by simple drainage in which we had the result of permanent fistula discharging a simple, glairy mucus. I advised, later on, cholecystectomy, which was done. It was not a difficult operation, very simple, but the man died promptly in forty-eight hours. The first twenty-four hours he got along nicely, but for some unaccountable reason he died. He was a man in good health. He had recovered from a previous operation which had been done some three months before, and his death shocked me, so that I became rather frightened.

I also had another fatal case of cholecystectomy. Two deaths in nine or ten cholecystectomies give a high percentage of mortality. Unless the gall-bladder is so thoroughly diseased it had better be left if for no other purpose than a means of drainage. I believe that it adds so much to the danger of the operation that it should not be removed unless absolutely necessary. I remember talking with Dr. Wm. Mayo some years ago concerning the sudden deaths following cholecystectomy. Asking him how he accounted for them, he replied that he could not account for them unless it was due to the suspension of the bile function of the liver. I believe it is due to the fact that a large percentage of these cases are complicated with cholangitis. This being the case drainage of the hepatic system is important and can best be done through the gall-bladder.

DR. J. B. MCGAUGHEY (Winona): I have been much interested in the papers which have been read. I enjoy coming to these meetings; I enjoy hearing these conflicting opinions, and yet I go home sometimes undecided what to do. It has not been three years since so eminent a surgeon as Ochsner of Chicago said he had spoiled a good many gall-stone operations by the administration of phosphate of soda and olive oil. A recent writer in a medical journal tells how many cases he has relieved by the administration of an effective pill. It would be very gratifying to us country practitioners if these city men who have had such a general experience would definitely settle these points. However positive they may be on either side, we know their teachings conflict, and we know they cannot be right all the time. (Laughter and applause.)

DR. A. T. MANN (Minneapolis): We can draw a parallel, I think, in some measure from the development in the treatment of appendicitis. In the beginning it was only the cases in which we had actual pus present that we thought worthy of surgical treatment. For years we heard this same point fought over between the surgeon and the medical practitioner. We had some of the most eminent men on both sides of the question, some believing appendicitis without pus should be treated medically and some believing as strongly that it should be treated surgically. As the years have gone by it has been proven that most cases should have surgical treatment. If this can be done before the actual formation of pus or the occurrence of gangrene, so much the better.

In regard to gall-stones: I believe that we are pretty well in agreement that when gall-stones are actually present they should be removed. Further than this, I believe that when there are persistent gall-bladder symptoms the gall-bladder should be drained. Any operating surgeon knows that many cases with gall-

bladder symptoms show a thickened gall-bladder with no gall-stones, and that it is the rule for them to recover permanently with the drainage of the gall-bladder. This allows an inflamed or infected gall-bladder to become sterile and to lose its inflammation. We know, further, that symptoms practically identical with gall-bladder symptoms some times are really due to chronic pancreatitis. The indication here is to drain the pancreas. The best way to drain the pancreas is through the gall-bladder. These cases practically all recover on drainage of the gall-bladder. So we are beginning to feel that surgical intervention in cases with gall-bladder symptoms is more and more to be advised, just as operative interference in cases with symptoms of appendicitis is to be advised more than in the years that have passed away.

DR. F. W. DIMMITT (Red Wing): I have been intensely interested in this discussion and I feel that I would like to say a few words on the subject. This is a comprehensive subject, and I believe there is a unity of opinion among physicians and surgeons both that in cases of undoubted gall-stones we have symptoms that call for surgical interference, but there are many cases of gall-bladder disease that improve by medical treatment, and we shall probably continue to so treat them. I am surprised that succinate of soda has not been mentioned. For a number of years I have been giving succinate of soda in five-grain doses and have found considerable satisfaction in using it, and I cannot call to mind a case where the symptoms recurred.

In our local society some months ago a paper was read on gall-stone disease, and I was surprised to read in Tyson's "Practice" that this eminent physician had been in the habit of using sodium succinate, five grains three times a day, in these cases, and that he had never met a recurrence in a case so treated.

While I, of course, agree with surgeons that gall-stones themselves call for surgical treatment, I have used sodium succinate even in cases where surgical interference seemed indicated. Frequently we cannot get patients to submit to operation, and I have had the satisfaction of relieving the symptoms in some of those cases.

DR. GEO. D. HEAD (Minneapolis): It is only fair in the discussion of such an important subject that all sides should be heard. The surgeon cannot settle the question of gall-bladder disease; neither can the man who sees the cases from the view-point of the internist or the general practitioner. The surgeon sees the severe cases that have passed through the hands of a general practitioner and been treated by him without benefit. The general practitioner and the internist see the mild and recurring cases, which are of the less severe type, and do not need the surgeon's skill. A safe rule to follow is, that where the gall-stones produce symptoms which affect the health of the individual they should be removed. If an individual is able to get along with comfort and without serious interference with his health or business the gall-stones should be left alone. I do not think there is a man here who believes that we can give anything internally which will cure gall-stones. We know, however, that they may remain latent in the gall-bladder for years and cause no trouble. They may at times produce symptoms of acute inflammation of the gall-bladder, which will subside without serious consequences.

In connection with chronic jaundice we should bear in mind that some of the most serious cases of obstinate jaundice are caused by a blocking of the common bile-duct by pressure from the head of the pancreas in chronic pancreatitis. Robson has given us a very definite picture of these cases. The jaundice is deep and prolonged, and suggests malignancy. Drainage of the gall-bladder in such cases is a life-saving measure. In one case which I observed, drainage of the gall-bladder

saved the life of the patient, who was doomed to death from the toxemia due to the deep jaundice.

DR. A. E. BENJAMIN (Minneapolis): I am very much pleased to have heard the symposium on this subject, but I think it is quite necessary, as pointed out, that the medical man and the surgeon get together on this question. The sooner this is done, the sooner it will be settled. It remains with the general practitioner and the specialist to accomplish this result, by asking for more frequent consultations.

We know of cases of gall-stones that remain well for years. That does not prove absolutely that such patients should not be operated upon. It is surprising to find the number of cases of gall-stones in doing a laparotomy, where an examination of the gall-bladder is made. Without any symptoms at all, we find numerous gall-stones present. I have in most instances removed the stones in such cases.

They will not die from the operation where there is no infectious disease within the gall-bladder and no adhesions around the organ. It is a simple operation to remove the stones and there is no danger at the time, but there may be when we have a disease in the gall-bladder and stones in the ducts. When there is a cholecystitis, gall-stones, if present, add to the danger.

I think the infection travels through the bloodstream more than any other way. That seems to me to be the most reasonable explanation of infection of the gall-bladder, preceded by a disease of the appendix.

There is one thing I wish to state in regard to obstruction of the ducts. I have a method I employ after the operation.

After we have drained the bladder for two or three weeks and know there is nothing there except a constriction, I have been able to open the ducts by hydraulic pressure. It is surprising what results we get. The flow of bile is almost completely stopped, and in two or three irrigations I have been able to prevent the bile from flowing through the wound and cause it to flow into the duodenum. This should not be done unless we are quite sure there are no gall-stones existing in the ducts. We should also remember that if unhealthy granular tissue is present, it should be cauterized and a proper foundation made for healing the wound.

I believe that prolapsed kidney is a cause for biliary stasis in some cases.

DR. ROTHROCK (Essayist): The question has been raised by Dr. MacLaren as regards the theory of ascending infection; why it is that the pancreas is so seldom involved if the infection is ascending and gains entrance through the common duct? The conditions here are not analogous, and the doctor has wholly lost sight of the important role stasis of the bile plays in favoring ascending infection. As a matter of fact, it has been demonstrated that obstruction to the free outflow of infected bile at the ampulla of Vater is responsible for infection of the pancreas. Under these conditions the bile enters the duct of Wirsung and carries with it the infection which involves the pancreas. In 1902, Lartigan, in a paper before the New York Academy, reported the results of experiments which showed that injection of bacteria into the circulation invariably resulted in infection of the gall-bladder.

The results of these experiments appear to have been accepted by the profession without question, and the attempt has been made to show a relation between infective processes in the abdomen, as, for example, appendicitis and disease of the gall-bladder, the latter being secondary and directly the result of infection of the blood. Others have failed to confirm the results of Lartigan. Sherrington has shown that, although the blood may be swarming with bacteria, the gall-bladder remains sterile, and Carmichael has shown

that even when bacteria were injected into the portal circulation the gall-bladder remained sterile.

In the case of the bacillus typhosus and the pneumococic infections, as stated in the paper, the hematogenous theory is plausible, but in the other infections the facts at hand do not warrant such a conclusion. For example, the frequency of appendicitis and gall-bladder disease in the same subject has been placed at thirty-five per cent. Both are common diseases. We know that even in chronic catarrhal appendicitis a frequent symptom is a more or less disturbance of the stomach with probable duodenal catarrh, hence increasing the likelihood of ascending infection.

No one would deny that bacteria occasionally find their way to the liver through the circulation, but they usually find their way into the blood-channels singly or in small numbers, and are probably destroyed in the liver or their virulence so reduced by the liver cells as to render them harmless.

Again, the colon bacillus is the most common invader of the gall-bladder, and in health it rarely gains entrance to the circulation. On the other hand, the streptococcus and the staphylococcus, which are so frequently responsible for the most serious inflammatory processes in the abdomen, are comparatively rarely the cause of gall-bladder inflammation as compared with the colon bacillus. It may be said that in localized processes neither of these is found in the blood with any degree of regularity.

From the facts at hand the conclusion that the blood is the usual channel by which bacteria gain entrance to the gall-bladder, does not at present seem warranted.

DR. KNAUFF (Essayist): The subject of general therapeutics of gall-bladder disease is certainly a mooted question. This paper was assigned to me, and in looking up the matter I have been convinced that more was done for these patients by medical treatment than I was led to suppose. We must distinguish between a diagnosis with stone and without stone, and I believe I stated in the paper that where stones are present and we get serious symptoms, those cases should be operated on, or where the infection is severe the gall-bladder should be drained, but if these cases are seen early and early diagnosis is made, they should certainly have the benefit of medical treatment. Some of them will not readily consent to operation, and then again the dangers from operation in a cholecystectomy are much

greater and cannot be compared with the dangers of operation in appendicitis. For this reason it is just to the patient and to ourselves, if some of these cases, if seen early, are given medical treatment.

DR. MOORE (Essayist): With reference to the infective theories, I question whether it will ever be settled. There is no doubt that infection takes place sometimes one way and sometimes another.

In reference to the paper on medical treatment, the doctor speaks of cure. It is possible that it occurs. Every practical surgeon knows that some cases he must drain. A few years ago every physician in the community had an aspirator; to-day their aspirators are in the junk-shop. I am conscious of no time when an aspirator was effective in the draining of the gall-bladder, except when the abdomen was opened and gauze packed all about it.

In the matter of cholecystectomy, the discussion shows without question that it is an operation of election. It seems to be the consensus of opinion that it is the operation in selective cases and not one to be adopted as routine.

In the matter of drainage, Dr. Rogers simply demonstrates the rule I laid down pointing out the exception, and he agrees with me that in infection of the ducts it is only a question of proper drainage.

In regard to hemorrhage: Dr. MacLaren says he has never had a case of hemorrhage. He is a lucky man. He will get it,—I hope not, but he will. I have had but three, but they all died. The first one was a girl, and after she was operated on she rallied for a week, but at the end of the week she bled from the mouth and abdominal cavity and died. The other case was that of Dr. Blackmar. I operated upon him, taking out a large number of gall-stones. He did splendidly until the morning of the third day. About three o'clock in the morning I was telephoned for to come to the hospital. He knew the symptoms as well as I did. I went in and shook him by the hand, and he, smiling, turned down the bed clothes and said: "Here is the beginning of the end." Everything was saturated with that dark blood. Like the hero he was, he said: "This is a beautiful old world," and then died.

Dr. McGaughey criticises us because we do not try to settle the question as between medical and surgical treatment. I am sure if Dr. McGaughey were in the position of the patient he would have no doubt in regard to the benefit of surgical treatment.

A CASE OF ACUTE INSANITY IN A CHILD NINE YEARS OF AGE*

By M. J. JENSEN, M. D.

MINNEAPOLIS

It is said that psychiatry is the most undeveloped of the sciences, and it is not a wonder because it deals with the most difficult problems which our profession has before it. So long as we are ignorant of the normal thought and the relations of brain to mind, our knowledge of the processes of morbid thought is far from com-

plete. The study of each, however, helps the other, and one of the most encouraging signs of the times is that psychologists in our days are studying the matter clinically and comparing the normal with the abnormal. This being true of our comparative ignorance in the study of the normal mind, it stands to reason, that a study of the types of mental disease is most unsatisfactory. However, every medical scientist now divides all

*Read before the Hennepin County Medical Society, October 7, 1907.

forms of mental disease into two great types, first accidental insanities in which heredity plays a smaller part, and stress of life and bodily disease are the predominating and causative influences; second, the insanities of degeneration in which heredity is the one great cause and the disease the inevitable result of the conjunction of a germ cell bearing the potentialities.

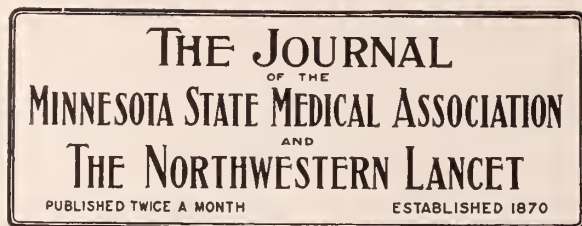
The case which I will report is one of confusional insanity in a boy but nine years of age. His parents are of Swedish descent and have three children, one girl 13 years and one 11 years of age, this patient being the youngest in the family. The family history is negative and the boy was always healthy and well up to this summer. It was on August 24 that I was called to their home and the patient was sitting half raised on a lounge or couch, while the mother was taken sick with fever and lay in an adjoining room. Everything seemed in excitement, some crying, others talking in anxiety, while I noticed the little fellow on the couch was very peculiar and noisy. The father then gave me the following history: Edgar is just convalescing from an attack of typhoid fever which lasted five weeks. His mother had nursed him and followed the doctor's orders the best she could. The temperature, I was told would run from 103° in the morning to 104° in the evening; the highest point being 104½ degrees. There was no delirium through the whole course of hyperpyrexia or any other time during night or day. He had complained of no pain or discomfort and took willingly everything given to him. When the fever had left him and he was eating with an enormous appetite at short intervals during the day, his bowels and kidneys working normally, he suddenly, on the third day of sitting up, began to be very talkative. His parents and sisters becoming alarmed and wondered if Edgar was losing his mind as they called it. It was then the father came to my house and I found the situation such as described. Turning to the little patient again, I saw him in the same mood of emotional exaltation, a veritable chaos of ideas thronged through his mind which amounted to a constant motor agitation. All efforts to quiet him ceased to have any influence over the rioting torrent of thought. After a period of accelerated flow of ideas and motor agitation lasting perhaps 15 or 20 minutes, the elation would pass suddenly into conditions of anger or tears over trifles. His speech was somewhat indistinct and rapid, varying from garrulity to logorrhea. His sentences were often bound together by ordinary relationship, but many latent ideas would spring into consciousness and expression. He talked a great deal about his Sunday-school teachings: what Christ had done for the world, etc., using signs and gestures to illustrate. If any one tried to stop him, he continued or would readily pass into a condition of

crying and fear. The elated mood at times gave way to delusions of grandeur. The patient would affirm himself to be priest or teacher, and if sharply told to stop would hide his face and cry. I diagnosed the case as post-febrile insanity and advised the father to get a nurse or have the boy taken to a hospital. He wanted the nurse and she took care of the mother and boy as well as she could. It soon became evident that they could not keep the boy at home, so a few days later he was taken to Mollan's Hospital in a room by himself.

The same treatment was continued at the hospital which consisted of rest, tonics of iron, arsenic and small doses of strychnia, with appropriate doses of hypnotics and bromides to keep him quiet. He continued in about the same way until at the end of the fourth week from the first day of mental disease. I then noticed he began to be more quiet and observant of certain things. He could count money correctly, liked to have playthings and began to talk about things of the past. The idea of taking him to Faribault or Rochester was abandoned when, on September 14th, he was discharged as improved to go home on trial. Recovery from now on came fast until at this time he is perfectly well, not a vestige of insanity remains, and he is to the present day playing at home with the rest of the children and enjoying his family relations. This case is of interest for two reasons: first, insanity is very rare in children; secondly, this is the youngest patient, as far as I know, who has had this type of insanity. It is perhaps more frequent after typhoid fever than after any other disease and is supposed to be the result of impaired nutrition and exhaustion of the nervous centers.

THE CLINICAL SIGNIFICANCE OF THE SYMPTOM HEADACHE

E. Castelli, of New York, says that the clinical significance of the symptom headache is as multifiform as its pathology, and its treatment is one of the most complex questions of therapeutics. Almost all headaches are produced by the absorption of poisons, and the blood condition is most important. We must educate the patient not to expect immediate relief, but to undertake a rational course of hygienic and therapeutic measures that will end in a cure. Headache is present in all nervous affections. Localized headache results from syphilitic gummata and tumors of the meninges, while in neuralgic forms the pain is not localized in many cases. The author distinguishes and gives the differential diagnosis between headaches from brain lesions, where it is accompanied by papillitis and neuroretinitis, hemicrania, neurasthenic cephalalgia, uremic headache, anemic, and adolescent headache.—Medical Record.



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DR. WINFIELD SCOTT LATON

The death of Dr. W. S. Laton in Minneapolis Sunday, October 6th, 1907, will come as a painful surprise to his fellow physicians and to his numerous students throughout the northwest.

Dr. Laton has not been well for some time, although no one knew his condition to be serious. He had frequently complained of feeling ill, and he occasionally spoke of a heart condition which he believed would prove fatal at any time. During the summer he seemed fairly well, and enjoyed his practice and his out-of-door life. On Saturday, October 5th, he complained of pain and vertigo, which lasted only a short time. On Sunday he attended church, saw and treated a number of patients in his office, and seemed particularly bright and cheerful. At 2 o'clock in the afternoon the pain in his head and chest became intense for an hour or more. Shortly before 5 o'clock he left his room to go down stairs to get something to eat. While the maid was preparing the food he lost consciousness, fell from his chair, and died in about twenty minutes.

The funeral services were held at Westminster church Friday, October 12th, and the remains were taken to Bangor, Maine, for burial. Friends, doctors, and students attended the funeral to pay

their last and heartfelt respects to Dr. Laton's memory.

Dr. Eaton was about 56 years old. He was born in Maine, graduated from the Long Island College Hospital, and went to San Antonio, Texas, then a small town, to practice medicine. He remained there four years, and accumulated some money and much general experience that comes to one on the frontier. He came to Minneapolis in 1881, and has made a name for himself as a skillful laryngologist and rhinologist. He became identified with what is now the College of Medicine and Surgery of the University of Minnesota at the time of its organization in 1882, and taught and lectured until 1905, when he resigned.

Dr. Laton was a successful and forceful teacher, simple and painstaking in his methods, and beloved by all his students for his kindness and courtesy. He was genial and lovable, and made hosts of friends. He was frank and honest in his treatment of his patients, and always had a kind word for his fellow practitioner.

Dr. Laton was the kind of a man who will long be remembered for his many good qualities and his standing as a physician. If more men were like him in the medical profession there would be less fault finding and a more wholesome respect from our lay brothers.

THE MINNESOTA STATE SANITARIUM FOR TUBERCULOSIS

The new buildings comprising the Sanitarium for tuberculosis patients will be ready for patients about November 1st. The Sanitarium is located near Walker, Minn., near Leech Lake, and is surrounded by pines and other woods. The site is on high ground with ample drainage and a superb water supply. The buildings will be turned over to the State Board of Control this week, and everything will be in readiness for the state's experimental work in the cure or improvement of the tuberculosis patients.

Applications for entrance must be sent to the Superintendent of the Sanitarium, at Walker, Minn., who will consider the application and refer the applicant to the examining physician. Each county has one or more examiners, appointed by the state authorities, who will make a preliminary report as to the physical findings based upon their examination. The Superintendent will then determine upon the advisability of admitting the patient. All this seems like a good bit of red tape, but, in reality, it is absolutely necessary that every precaution should be taken to insure the admission of only proper cases,—those in which improvement or recovery is probable.

The number of tuberculosis patients in Minnesota is large, and unless only selected cases are

admitted the Sanitarium would soon be swamped with incurables.

Only a limited number of patients can be cared for this winter. As soon as the needs of the state are demonstrated other buildings or pavilions will be added and the population increased.

The buildings so far erected are very substantial stone and brick structures. No expense has been spared to make them comfortable and imposing. It may be necessary hereafter to erect less expensive houses on the tent or small pavilion plan, but it seemed wise to start with a commodious administration and hospital building.

In many of the states no effort has been made to expend a large sum of money on buildings. The shack, tent, and small building has seemed to meet all the requirements.

Minnesota's Sanitarium and its operation will be followed with interest by the medical profession and sanitarians interested in the treatment and care of the poor.

STRIKING HOSPITAL NURSES

There is no limit apparently to the procession of strikes! Labor unions are not the only organizations that have found it expedient to strike for liberty—or increased pay. Now comes a solemn procession of nurses striking for recognition and a few side issues. If this epidemic continues the labor unions, the corporations, and the lay people in general may suddenly awaken to hear a band of striking doctors who will pompously refuse to attend any sick person who cannot pay on the spot or who dares to call a physician between the hours of 8 p. m. and 8 a. m.

It is about time these striking bodies were relegated to the nursery spanking-room where their demands could be accompanied by loud cries of pain. The ridiculous exhibition of striking nurses at the St. Paul City Hospital and the Swedish Hospital at Minneapolis should be a lasting lesson for pupil-nurses elsewhere. The promptness with which each delegation was permitted to depart without honor was distinctly refreshing.

Doubtless, there are instances on record where nurses had grievances, and if the records were overhauled they would disclose an amicable settlement of differences or misunderstandings without the publicity of petty complaints and unreasonable demands. It seems remarkable that nurses, caring for the sick in a hospital, should so far forget their duties and responsibilities as to forsake those who were in need of attention, perhaps during critical periods in their lives. It also reflects upon the intelligence of a nurse who will not graciously submit to the discipline necessary

in training-schools of any kind. Discipline must be maintained even though there is seeming injustice inflicted on individual members of a school. It is not the province of the pupil to direct: it is hers to obey.

The spirit of unrest is very strong in every line of occupation and it bursts out in one way or another. To the outsider it would seem that an occupation should be carefully considered before entering upon its duties, and, if found unsuitable or distasteful, it should terminate without undue commotion; but this is not the method of the present day. The privileges must be large, the discipline easy and lax, and the hours for recreation and refreshment long and joyous. In the olden times the work was hard, the discipline severe, and the pleasures few, but in the end the man or woman was fit to enter upon the work so laboriously undertaken.

If this unrest continues the old world will shake its people together some day, heads will be bumped, and common sense and class rights will once more be clearly defined.

THE "MINNESOTA DAILY"

Registration week at the University of Minnesota is usually strenuous, the various departments are taxed to the uttermost to accommodate the rush of students, and, naturally, there is more or less public-spirited rivalry which leads to temporary confusion in the various departments. The Minnesota Daily, which is supposed to be the official organ of the students of the University, has been full of more or less interesting matter, but it has shown its instability by going out of its way and departing from its normal function by printing a scathing editorial denouncing and misrepresenting the attitude of Dean F. F. Wesbrook of the Department of Medicine and Surgery. The controversy grew out of the difficulties presented to the Department of Dentistry by an influx of students. More matriculants entered this department this year than ever before, and it was impossible to find room for the workers. The Dental Department asked the last legislature for a new building, but their request was not granted; hence it was necessary to find floor space for the increasing demands of the infirmary. An effort was made to secure more space in Millard Hall, and the executive committee of the Board of Regents was obliged to exercise more ingenuity than seemed possible. Dean Wesbrook of the Medical Department and Dean Owre of the Dental Department presented their claims, and, without friction, the space was provided. A portion of Millard Hall was given the dentals, but their request for more room was not granted. They were pro-

vided additional room in an adjoining building, which will be satisfactory. Without waiting for the departments to settle their differences amicably, the Minnesota Daily attacked Dean Westbrook for his alleged unfavorable attitude. The editorial called forth a good deal of criticism which acted as a boomerang on the editorial staff.

Dean Westbrook is recognized by the medical students and by the profession of Minnesota as a scholarly and capable man, one who has the interests of the whole University at heart, a man respected and honored by all who know him. He is just and fearless and is able to assume and carry the burdens of his responsible position without faltering. His position in this matter is upheld by the faculty and he is respected by the student body. It is surprising that a University paper should come out as the champion of one department and the denunciator of another, and should indulge in personalities founded on misrepresentation. The University press should endeavor to fairly represent the various departments and in this way aid in building up the whole University spirit.

Unfair attacks create comment and criticism in the lay press and may do much damage abroad.

Fortunately, it is generally understood that the University press is manned by students, and due allowance will probably be made by those who read its columns.

Dean Westbrook is still dean, and a good dean, too.

CORRESPONDENCE

THE INTERNATIONAL ANTITUBERCULOSIS CONFERENCE

VIENNA, SEPT. 22, 1907

TO THE EDITOR:

Unquestionably, the problem of combatting the spread of tuberculosis is the greatest problem before the medical profession to-day. For this reason I believe that many of your readers will be interested in a short resume of the work of the Sixth International Antituberculosis Conference, which held its sessions in Vienna from the 19th to the 21st of September. It was attended by over 300 members composed of distinguished representatives of governments, leaders in social politics, and the heads of sanatoria, bacteriological and other institutions of research, of clinics, and associations for charity insurance companies. There were men whose names are familiar throughout the entire medical world: Aufrecht, Behring, Trenkel, Kayserling, von Noorden, Schrötter, von Leyden and Weichselbaum of Germany and Austria, Turban from Switzerland, Calmette, Landouzy and Guinard of France, Wil-

liams and Raw from England, Holmboe of Norway, Medin from Sweden, Maragliano from Genoa, and Flick, Briggs, and Ravenel as representatives from the United States.

The subjects considered were,—1, ways of infection; 2, compulsory notification; 3, costs of sanatoria. On the first question sixteen papers were read, almost all of them giving the results of personal experience and original experimental work.

The concensus of opinion was that the most common and most rapid infection of the system is by inhalation into the lung-tissue of the human bacillus tuberculosis; that, however, a considerable percentage, estimated in his own experience by Spont of Utrecht as 10 per cent. resulted from infection through the intestinal tract, chiefly by the bovine T. B. The advocates of inhalation infection (Calmette of Lille) found the bacillus in the deepest part of the lung tissue in their experiments upon animals, and Orth of Berlin, after a lucid, vigorous essay, in which he gives predominance to inhalation infection, draws attention to the fact that the particles of coal dust found in the lung-tissue are carried there by the inspired air and not by the blood-stream, and "why should we not concede to the bacillus what we accept for coal dust." (Was dem Kohlenstaub recht ist, ist dem bacillus billig!)

Infection by spray (tröpfchen infection) is regarded as one of the most fruitful sources of infection by those who live continuously in close proximity.

That aspiration of tubercle bacilli into the lungs may be the starting-point of the disease was emphasized by Calmette.

While an infection of the tonsils with bacilli may result through the blood-stream or by contact with tubercular food, Fraenkel through his observation that the pharyngeal tonsil is most frequently tuberculous, believes that inhalation is the main factor in causing tonsillar tuberculosis and in affecting an entrance in the glands of the neck.

All speakers admit the intestinal tract as a path of entrance of the bacilli carried into the primæ viæ by the food, chiefly milk and butter, although the number of bacilli swallowed must be enormously in excess of those inhaled to result in infection, which, in the former case, is apt to take a much more protracted course.

Hereditary transmission is a problem shrouded in obscurity. The presence of the bacillus in ovum or spermatozoon has never been proven. It is impossible to be born bacillus-infected (naitre bacillise—impossible!—Landouzy of Paris). Malm of Christiania speaks of the possibility of infection of animals by the human bacillus and vice versa.

After relating these observations and conclu-

sions from experiments upon animals a number of authors warned against a too ready application of such findings to human conditions.

Flick of Philadelphia, taking the practical view of the question, insists on the thorough consideration of *all* the avenues of infection and that cleanliness is one of the greatest safeguards against the spread of tuberculosis.

L. A. NIPPET, M. D.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

The annual meeting of the Academy was held at the Minnesota Club, St. Paul, Wednesday, Oct. 2, 1907. There were present 34 members and two guests. After dinner the meeting was called to order by the president at 8:15 o'clock.

Dr. Archibald MacLaren reported a case of cyst of the kidney in a young woman, with operation. The specimen was presented. There had been pus in the urine for a long time and complaint of distress in the bladder more than real pain. She had been put to bed, and the bladder treated for a time with apparent great relief, but upon getting out again the trouble returned. She had a slight rise in temperature only; good pulse. On cystoscopic examination the ureter could not be seen, but pus could be seen entering the bladder as if coming from the ureter. It was decided therefore that the pus was coming from the pelvis of the right kidney, and removal of that organ was decided upon. Laparotomy was performed for the purpose of decapsulating the kidney, and then the usual incision in the back was made for its removal. The kidney was found to be merely a large sack of pus. The operation was two days ago, and at this time the patient is doing well. The urine has cleared up almost entirely in this time, showing that the other kidney is healthy and is doing good work.

Dr. Arnold Schwyzer stated that there are two types of pyonephrosis that are entirely different from each other, i. e., the cases of primary infection of the pelvis of the kidney and those that are infected secondarily following a hydronephrosis. The latter are much simpler and are amenable to treatment by removal, while the former are not.

Dr. S. Marx White called attention to one point in the manner of examining this class of cases by the cystoscope; i. e., when the orifice of the ureter is not visible, firm pressure over the kidney will cause the pus to be forced through the ureter and it may then be easily seen oozing into the bladder.

Dr. A. A. Law reported a case of death, following labor, from hemorrhage into the splanchnic veins. There had been collapse shortly after

delivery with every indication of hemorrhage, but with no outward sign of it. The usual measures caused a partial rally only, and upon vaginal examination a complete inversion of the uterus was found. There had been no difficulty or complication at labor whatever, and there had been no traction made upon the cord.

Dr. Parks Ritchie stated that he had never seen a case parallel to that reported by Dr. Law, and could think of no cause of death other than that stated unless it were some heart lesion. Dr. Law stated that the heart was carefully examined prior to labor, and that he felt confident that it was not that.

Dr. Cates stated that a similar case had occurred in Minneapolis in which a midwife had been in attendance. The woman was moribund when seen by a physician, and died very soon. An autopsy was held, and the specimen of the inverted uterus was secured, and has since been shown to the medical classes at the University. It had been supposed in that case that the midwife made strong traction on the cord. Dr. Weston had also seen this case, but only shortly before death. Dr. Law stated that he had been unable to make out the "funnel shape" of the uterus because, as he found out afterwards, the depression in the organ was way over on the back side and low in the pelvis, so that only a rounded surface was presented to the hand in front.

The Academy then proceeded to the annual business meeting.

The election of officers resulted as follows: President, Dr. Arthur J. Gillette, St. Paul; vice-president, Dr. James E. Moore, Minneapolis; secretary-treasurer, Dr. Arthur W. Dunning, St. Paul. Executive Committee: Dr. J. L. Rothrock, St. Paul; Dr. C. M. Carlaw, Minneapolis; Dr. S. Mark White, Minneapolis.

Dr. R. O. Beard announced that an invitation had been received from Dean Wesbrook for the Academy to meet at the University for its January meeting, when it is proposed to have the symposium that the Executive Committee has had in view for some time.

Dr. J. L. Rothrock then read the paper of the evening upon "The Association of Obesity with Amenorrhea and Sterility."

It was discussed by Drs. Sneve, W. A. Jones, R. O. Beard, A. Schwyzer, and by Dr. Rothrock in closing.

ARTHUR W. DUNNING, M. D., Secretary.

HENNEPIN COUNTY SOCIETY

A regular meeting of the Hennepin County Society was held Oct. 7th, Dr. J. E. Moore, the president, in the chair and 35 members present.

Dr. J. G. Cross reported for the trustees and

read a communication from Mr. L. S. Donaldson offering space in the new Donaldson building for the library.

After full discussion, Dr. A. E. Benjamin moved that the proposition be accepted and that the trustees be authorized to make due arrangements and to formally accept the offer of Mr. Donaldson. The motion was seconded and carried unanimously.

Dr. Charles E. Ingbert and Dr. Emil O. Voyer, being reported favorably by the Censors, were duly elected to membership.

The following named physicians were proposed for membership: Dr. Robt. Williams and Dr. S. C. Borom.

Dr. R. J. Hill moved that the thanks of the Society be extended to Mrs. Charles Simpson for her generous donation of medical books to the library. Carried.

Dr. C. H. Hunter moved that donated books for the library be marked by the librarian in such a way that those giving the same receive due credit. Carried.

Dr. R. J. Hill moved that the chair appoint a committee to draw up resolutions and take such active action as seems appropriate in regard to the death of Dr. W. S. Laton, one of our members. Carried.

The president appointed the following committee: Dr. R. J. Hill, Dr. W. A. Jones, Dr. C. H. Hunter, who drew up and presented the following resolution:

Minneapolis, Minn., Oct. 7, 1907.

WHEREAS, the sudden and unexpected death of Dr. Winfield Scott Laton (Oct. 6, 1907,) has come as a shock to the city of Minneapolis and is most keenly felt by the medical profession of the state, we desire to emphasize our sincere sorrow by authorizing the inscription of these resolutions on the record book of the Hennepin County Medical Society.

RESOLVED, that we, as members of the Hennepin County Medical Society, express our appreciation of the genial and honorable character of Dr. Laton, and also testify to his skill and worth as a physician. He was one who was invariably honest and straightforward in his dealings with his patients, and courteous and kindly in his associations with his brother practitioners:

We deplore his untimely removal and will cherish the memory of his good qualities.

C. H. HUNTER, M. D.,
R. J. HILL, M. D.,
W. A. JONES, M. D.

The resolutions were adopted by the Society.

Dr. C. H. Hunter moved that the chair appoint a committee to consider the desirability of arranging for a course in brain study, with special reference to their etiology.

Dr. W. R. Murray read a paper with the title "Technic of the Intranasal Method of Operating for Chronic Empyema of the Maxillary Sinus." The paper was discussed by Drs. J. A. Watson, J. E. Moore, E. H. Parker, and the discussion was closed by Dr. Murray.

Dr. M. J. Jensen reported "A Case of Acute Insanity in a Boy Nine Years of Age." The discussion was entered into by Drs. A. S. Hamilton, W. A. Jones, J. C. Cockburn, C. H. Hunter, and closed by Dr. Jensen.

Dr. C. H. Bradley reported "A Case of Syphilis with Diffuse Gummatous Infiltration of the Liver and Pancreas, with Autopsy."

C. H. BRADLEY, M. D., Secretary.

UPPER MISSISSIPPI SOCIETY

A very profitable meeting of the Upper Mississippi Society occurred at Wadena, October 8, 1907. There were twelve members present. Dr. E. S. Fowler, of Staples, was elected to membership.

The program was as follows:

A paper by Dr. Geo. D. Head, of Minneapolis, on "Tuberculin in the Treatment of Pulmonary Tuberculosis." The paper was discussed by Drs. McKinnon of Wadena, Roberts of Little Falls, Miller of N. Y. Mills, Christie of Long Prairie, and Lowthian of Hewitt.

"The Treatment of Epidemic Cerebrospinal Meningitis by Norwood's Tincture of Veratrum Viride," by Dr. L. M. Roberts, of Little Falls. Discussed by Drs. McKinnon, Christie, Lowthian, Head of Minneapolis, and Knickerbocker of Staples.

The next meeting will be held at Little Falls, January 14, 1908.

CHAS. F. COULTER, M. D., Secretary

MANAGEMENT OF THE THIRD STAGE OF LABOR

John W. Winston, of Norfolk, Va., considers the management of the third stage of labor as quite as important as that of the other two, since its proper conduct will result in a normal uterus, free from catarrhs and displacement. The removal of the placenta should take place promptly so as to secure good contraction of the uterus. The uterus should be watched for an hour after its delivery, and removal should be facilitated by gentle friction, and if necessary by manual removal under antiseptic precautions. All tears should be repaired promptly under anesthesia. Hemorrhage should be attended to at once. Douching is not regarded by the author as essential. Ergot has value but disadvantages as well. The binder is not regarded favorably.—Medical Record.

NEWS ITEMS

Dr. N. C. Davis has moved from Slayton to Badger.

Dr. Abe N. Gunz, of Center City, has moved to Chicago.

Dr. P. E. Jones, of Hutchinson, has moved to Kimballton, Iowa.

Dr. T. R. Watson, of Zumbrota, has moved to Clarissa.

Dr. C. R. Christenson, of Starbuck, has returned from Europe.

Dr. J. C. Alexander, of California, has located in Tower City, N. D.

Dr. W. G. Richards, of Sanborn, has moved to Bridger, Montana.

Dr. H. D. Palmer has moved from Valley City, N. D., to Scranton, Penn.

Dr. Luthard N. Bergh, State University, '06, has located at Montevideo.

Dr. W. C. McMurty has moved from Starkweather, N. D., to Wolford, N. D.

Dr. J. M. Duff, of Madison, S. D., has gone to North Dakota for a few months.

Dr. R. P. Williams has moved from Ruthland, N. D., to Gwinner, in the same state.

Dr. G. J. Collier, of Brookings, S. D., has decided to locate in Los Angeles, Calif.

Dr. I. M. Burnside, of Highmore, S. D., is doing post-graduate work in Chicago.

Dr. J. W. Austin, of Belgrade, has become associated with Dr. G. E. Sherwood, of Kimball.

Dr. E. H. Bohland has moved from Hanover to St. Paul, and has offices at 499 West Seventh street.

Dr. M. E. Withrow, of International Falls, has just completed a post-graduate course in Chicago.

Dr. F. W. Calhoun, a recent Rush graduate, has become assistant to Dr. W. L. Palmer, of Albert Lea.

Dr. F. J. Campbell, of Fargo, N. D., has gone to Europe for special study. He is accompanied by his family.

Dr. Charles Wirth, of St. Paul, has returned from Europe where he has been studying for some months.

Dr. Arthur Collins, a graduate of Harvard, has become assistant to Dr. Christopher Graham, of Rochester.

Dr. A. H. Movius, of Flandreau, S. D., was married on October 3d to Miss Helen M. Shephard, of Chicago.

Dr. W. S. Laton, of Minneapolis, died on October 6th. Notice of his life appears in our editorial columns.

Dr. Irving Wilttrout, of Eau Claire, Wis., the founder of the Sanitarium at Hudson, Wis. has moved to Minot N. D.

Miss Mary Harriman, of Windsor, Conn., has been appointed superintendent of the Episcopal Hospital at White Earth.

Dr. Charles McMahon, of Hibbing, State University, '06, was married last month to Miss Grace Cooper, of Adrian.

Dr. Thos. Mulligan, of Grand Forks, N. D., has returned from Europe where he has been doing post-graduate work.

Dr. W. A. Chamberlin, of Waseca, is doing post-graduate work in New York City, where he will remain three months.

Dr. B. L. Allison, of Wentworth, S. D., has located on a claim west of the Missouri, and is succeeded by Dr. Freeman.

Dr. A. D. McCannel, who has been studying abroad, has taken the practice of the late Dr. C. A. Klemmer, of Minot, N. D.

Dr. E. A. Eberlin, of Glenwood, State University, '01, was married last month to Miss Ellen McLachtan, of the same place.

Dr. George A. Holdridge, of Foley, has returned from doing post-graduate work in Chicago, and has begun practice in St. Cloud.

A cigar-maker of Dassel is giving treatments after the style of John Till, of Somerset, Wis., whose patients number one hundred a day.

Drs. C. & G. Durnin, of Westhope, N. D., have established a hospital at that place. Substantial aid was received from the citizens of the place.

Dr. H. H. Trundenfeld and wife, of Madison, S. D., recently returned from a 1,000-mile automobile tour which included Minneapolis and other points.

Dr. T. C. Balwin, formerly on the Lanont Hospital staff, now located at Chewanah, Wash., was married last week to Miss Matilde Schauer, of Henderson.

The Cass County (N. D.) Medical Society has established a bacteriological and pathological laboratory, with Prof. L. VanEss, of the State Experimental Station in charge.

A joint meeting of the Wabasha and Goodhue County Societies was held on Oct. 8th at Red Wing. The attendance was quite large, and the joint meeting was highly profitable.

Dr. Adolph Stierle, of St. Paul, has been appointed second assistant in the St. Paul City and County Hospital, and Dr. D. D. Hilger succeeds Dr. E. F. Murphy as first assistant. Dr. Murphy will enter general practice.

The physicians of Rapid City, S. D., have organized a local medical society, with the following officers: President, Dr. D. W. Flick; vice-president, Dr. A. M. Giffin; secretary, Dr. F. W. Minty; treasurer, Dr. W. E. Robinson.

Drs. P. T. Geyerman and F. M. Manson, of Worthington, have formed a partnership for hospital practice, each maintaining his private work. A graduate nurse, Miss Kinley, has been engaged to superintend the hospital.

The City Hospital of Stillwater has been conducted by the ladies of that city for twenty-five years, but the managers have resigned because of a small deficit, and they refuse to conduct the usual entertainments, rummage sales, etc., to carry on the hospital.

In the notice, in our last issue, of the Huron (S. D.) District Medical Society meeting, it was stated that Dr. Clough, of Madison, was elected president and Dr. Denman, of De Smet, secretary. They were appointed only *temporary* president and secretary. As they live outside of the Huron district, they could not be elected permanent officers.

TO THE PROFESSION—X-RAY LABORATORY

I have a well equipped x-ray laboratory, rooms 214-218 American National Bank Building, corner Fifth and Cedar streets, and am prepared to do your radiographic or Roentgen-ray therapeutic work.—W. S. FULLERTON, M. D., St. Paul, Minn.

FOR SALE

A practice of \$3,000 in a town of 400, with large farming community; doctor must be a Norwegian. Price, \$400 for practice, office furniture, two horses, two buggies, harness, and cutter. Going to Europe. Address W. H., care of this office.

FOR SALE

An unopposed practice in Southeastern Minnesota, paying from \$5,000 to \$8,000 a year goes to the purchaser of my house, lot, and barn at \$2,500. Retiring from general practice. Address R. E., care of this office.

FOR SALE

An unopposed lucrative practice, with small, paying drug-store in the central part of Minnesota. Large territory; population, Scandinavians, Germans, and Americans. Books will bear investigation. Will retire. Address G. N., care of this office.

FOR SALE

An unopposed country practice, near Minneapolis, worth \$2,400 a year, is for sale cheap; a very desirable location. Address H. R., care of this office.

FOR SALE

A 1906 Cadillac in good condition. Just the machine for a doctor for it always goes. Leather top and side lamps. Price, \$550. Address S. P. care of this office.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF AUGUST, 1907

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF AUGUST, 1907

STATE INSTITUTIONS.

	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Fergus Falls, Hospital for Insane.....	8	4		1											
Rochester, Hospital for Insane.....	13	2													
St. Peter, Hospital for Insane.....	1	1		1											
Anoka, Asylum.....	*											1			
Hastings, Asylum.....	*														
Faribault, School for Deaf.....	0														
Faribault, School for Blind.....	0														
Faribault, School for Feeble Minded.....	0	2													
Owatonna, School for Dependents.....	0														
Stillwater, State Prison.....	0														
St. Cloud, State Reformatory.....	0														
Red Wing, State Training School.....	0														
Minneapolis, Soldiers' Home.....	3		1												
Totals.....	35	9	1	2								1			

*No Report Received

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF AUGUST, 1907

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Albert Lea.....	4,500	5,657	6	1	2									1			
Anoka.....	3,769	4,053	3														
Austin.....	5,474	6,489	2												1		
Barnesville.....	1,326	1,566	2														
Bemidji.....	2,183	3,800	4												1		
Blue Earth.....	2,900	2,364	0														
Brainerd.....	7,524	8,131	6		1										1		1
Chaska.....	2,165	2,085	1														
Chatfield.....	1,426	1,300	7														
Cloquet.....	3,074	6,117	7														
Crookston.....	5,359	6,794	8					2						1			
Detroit.....	2,060	2,149	5	1													1
Duluth.....	52,968	64,942	97	8	4	2		3				2		1	5	20	1
E. Grand Forks.....	2,077	2,489	3														5
Ely.....	3,712	4,045	8	1											2		1
Eveleth.....	2,752	5,332	6				1	1									
Faribault.....	7,868	8,279	6					1									
Fairmont.....	3,440	2,955	0														
Fergus Falls.....	6,072	6,692	7	1				1						1			
Granite Falls.....	1,214	1,340	*														
Hastings.....	3,811	3,810	*														
Hutchinson.....	2,495	2,489	3														
Jordan.....	1,270	1,311	*														
Lake City.....	2,744	2,877	5														
Litchfield.....	2,280	2,415	*														
Little Falls.....	5,774	5,856	8	1	1								1				3
Luverne.....	2,223	2,272	0														
Le Sueur.....	1,937	1,842	2														
Madison.....	1,336	1,604	0														
Mankato.....	10,559	10,996	11	2	1												1
Marshall.....	2,088	2,243	0														
Melrose.....	1,768	2,151	*														
Minneapolis.....	202,718	261,974	247	16		16	1	5					2	3	46		12
Montgomery.....	979	1,281	1	1													
Montevideo.....	2,146	2,595	5	1													
Moorhead.....	3,730	4,794	7											2	2		
Morris.....	1,934	2,003	*														
New Prague.....	1,228	1,419	0														
New Ulm.....	5,403	5,720	3	1													
Northfield.....	3,210	3,438	5	1											1		
Ortonville.....	1,247	1,612	2														
Owatonna.....	5,561	5,651	7	2	1									1			1
Pipestone.....	2,536	2,885	1												1		
Red Lake Falls.....	1,885	1,797	0														
Red Wing.....	7,525	8,149	7		1												
Redwood Falls.....	1,661	1,806	2					1									
Renville.....	1,075	1,229	0														
Rochester.....	6,843	7,233	12	1	1												1
Rushford.....	1,100	1,133	0														1
St. Charles.....	1,304	1,238	2														
St. Cloud.....	8,663	9,422	13	1				1							1		
St. James.....	2,607	2,320	0														
St. Paul.....	163,632	197,323	173	20	7	4	1	3	1			1	1	1	28	1	17
St. Peter.....	4,302	4,514	2														
Sauk Centre.....	2,220	2,463	0														
Shakopee.....	2,046	2,069	1														
Sleepy Eye.....	2,046	2,312	0														
So. St. Paul.....	2,322	3,458	11												3		
Stillwater.....	12,318	12,435	6	1								1					1
Thief River Falls.....	1,819	3,502	1	1													
Tower.....	1,366	1,340	1														
Tracy.....	1,911	2,015	2														
Virginia.....	2,962	6,056	*														
Wabasha.....	2,528	2,619	*														
Warren.....	1,276	1,640	2														
Waseca.....	3,103	2,838	*														
Waterville.....	1,260	1,383	*														
West St. Paul.....	1,830	2,100	3													1	
Willmar.....	3,409	4,040	5											1			
Windom.....	1,914	1,884	2												1		
Winona.....	19,714	20,334	18	1												1	3
Worthington.....	2,386	2,276	2					1									

*No report received Health officer not doing his duty

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF AUGUST, 1907

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Ada.....	1,253	1,515	*														
Adrian.....	1,258	1,184	0														
Aitkin.....	1,719	1,896	1												1		
Akeley.....		1,636	3													2	
Alexandria.....	2,681	3,051	1														
Appleton.....	1,184	1,321	0														
Belle Plaine.....	1,121	1,301	*														
Benson.....	1,525	1,766	4	1													
Breckenridge.....	1,282	1,850	2														1
Buffalo.....	1,040	1,124	0														
Caledonia.....	1,175	1,405	0														
Canby.....	1,100	1,505	0														
Cannon Falls.....	1,239	1,460	1														
Cass Lake.....	546	1,062	*														1
Chisholm.....		4,231	4	1													
Dawson.....	962	1,056	0														
Delano.....	967	1,023	0														
Fosston.....	864	1,000	2														
Frazee.....	1,000	1,146	0														
Glencoe.....	1,780	1,805	0														
Glenwood.....	1,116	1,718	*														
Graceville.....	856	1,032	1														
Grand Rapids.....	1,428	2,055	7	2											2		
Hallock.....	805	1,014	2	1													
Hibbing.....	2,481	6,566	13	1	1	1									1	2	
Jackson.....	1,756	1,776	0														
Janesville.....	1,254	1,205	0														
Kasson.....	1,112	1,049	1														
Kenyon.....	1,202	1,252	0														
Lake Crystal.....	1,215	1,221	0														
Lanesboro.....	1,102	1,041	0														
Long Prairie.....	1,385	1,256	0														
Madelia.....	1,272	1,290	2	1													
Milaca.....	1,204	1,319	2													1	
Mountain Lake.....	959	1,063	1														
North Mankato.....	939	1,129	1														
North St. Paul.....	1,110	1,400	0														
Olivia.....	970	1,019	*														
Osakis.....	917	1,056	*														
Park Rapids.....	1,313	1,719	4												1		
Pelican Rapids.....	1,033	1,095	*														
Perham.....	1,182	1,366	*														
Pine City.....	993	1,092	1														
Plainview.....	1,038	1,140	0														
Preston.....	1,278	1,320	0														
Princeton.....	1,319	1,704	*														
Rush City.....	987	1,041	*														
Rushford.....	1,062	1,040	2	1													
St. Louis Park.....	1,325	1,491	0														
Sandstone.....	1,189	1,589	0														
Sauk Rapids.....	1,391	1,552	3	1				1									1
Scanlon.....		1,122	0														
South Stillwater.....	1,422	1,572	0														
Springfield.....	1,511	1,546	3														
Spring Valley.....	1,770	1,573	0														
Staples.....	1,504	2,163	1														
Two Harbors.....	3,278	4,402	5														
Wadena.....	1,520	1,868	3					1									
Wells.....	2,017	1,814	*														
West Minneapolis.....	2,250	2,530	2	1												1	
Wheaton.....	1,132	1,346	*														
White Bear Lake.....	1,288	1,724	4														
Winnepago City.....	1,816	1,553	*														
Winthrop.....	813	1,031	*														
Zumbrota.....	1,119	1,129	0														
State Institutions.....			35	9	1	2									1		
Other parts of State.....	1,012,328	1,085,886	480	45	9	12	3	24					1	3	32	4	22
Total for State.....	1,751,395	1,979,658	1329	129	26	42	6	44	5			5	5	26	150	6	74

Still births and premature births, 65 (not included in above totals).

*No report received Health officer not doing his duty

THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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CONTACT TYPHOID

By H. W. HILL, M. D.

Minnesota State Board of Health Laboratories

MINNEAPOLIS

"The spread of B. typhi is instantly staid
When food, flies and fingers refuse to give aid."

Experience in many personally investigated epidemics of typhoid fever, in Minnesota and elsewhere, has made it quite obvious that too little attention is given by the medical profession, and hence even less by the general public, to the seriousness of contact infection as a means of transmission.

When an outbreak occurs, the first of the three F's given above, which of course includes drink as well as solid food, is first thought of as a possible source, and then usually only in so far as regards the water. The next thing thought of, if the first be excluded, is usually the fly, while the finger, which is almost invariably a factor in every outbreak, is generally overlooked.

As a matter of fact the initial cases of typhoid fever in any given community are usually due to food, including milk, water, etc., or to flies, but the propagation of the disease thereafter is usually a matter of fingers. The writer is quite convinced that in most typhoid outbreaks only the initial incidence in each family can be credited properly to outside sources; or, conversely stated, that *when two or more cases occur consecutively in one family, usually all except the first case should be attributed to infection from that first case*, the infection being transmitted directly from the patient, or indirectly through the attendants. Where typhoid occurs in private families, the mother acting as nurse, it is usually the mother herself who, all unwittingly, infects the rest of the family from

the first case, by transferring the feces, urine, or saliva of the patient to the food or drink, or to the eating or drinking utensils, of the rest of the family.

Three groups of cases which illustrate some of the various forms of contact typhoid are given below, their interest lying in the facts that all were found recently in Minnesota; that, in all, the mode of infection was evident; and that, in all, precautions long since published in this journal and in pamphlet form by the State Board of Health, were neglected—precautions that, even without any emphasis from public health authorities, should be known to all physicians when they graduate and are certainly accessible to all physicians in any modern treatise on typhoid fever. It is true, of course, that word-of-mouth instruction is given by many physicians to infected families, but usually it is not detailed enough or when properly given it is, necessarily, so full of details that an untrained and inexperienced nurse (the mother of the family very often) already distracted with the household upset of sickness, does not properly take it in or appreciate it. A printed pamphlet giving the whole matter of contact typhoid in simple language, which the physician can leave with the family for leisurely perusal and reference, is suggested as the best solution, and an outline for such a pamphlet is appended, with the hope that physicians will note changes tending to simplification or call attention to useful points overlooked in its preparation.

It must always be remembered that, since any one case of typhoid fever is merely the child

of previous cases, its pedigree extending backwards like an ancestral tree to the first appearance of typhoid fever amongst the human race (and also, alas! too often extending forward *in prospectu* to generations yet unborn), no typhoid outbreak can be traced to its really original source, but usually only to the nearest fork in the branch. It is difficult enough to get accurate data concerning the immediate source of an existing outbreak. It is usually almost impossible to get accurate data concerning the source of that source, principally because the data are not noted at the time when the trouble exists, but are left to be collected, if at all, when lapse of time has obscured their features.*

THREE GROUPS OF CASES ILLUSTRATING CONTACT TYPHOID IN RECENT PUBLIC HEALTH PRACTICE IN MINNESOTA (*Names and addresses are omitted for obvious reasons.*)

Group 1.—An isolated family, consisting of six members, yielded three cases of typhoid fever, coming down practically simultaneously. (These probably received their infection from a guest staying in the house, who afterwards proved to be a walking case.)

While the three were sick (nursed by the mother), the father buried the discharges, after careful disinfection (!), by mixing them with sulphur. He, at the same time, milked the family cow. A neighboring family of five members, whose cow had gone dry, applied to the first family for a quart of milk per day until their own cow should be fresh again. The typhoid outbreak in the first family occurred while this arrangement was in operation. Promptly within the incubation period, one of the two members of the second family who alone drank milk came down, the other following some time later (probably infected from the first directly or through the mother, who nursed the sick and tended the well both at the same time). Personal investigation excluded possible sources other than milk, in the first case of the second family.

The State Board of Health has regulations against the handling of milk for sale where the handlers or their families are infected. While the people in this case could not have been expected to know this, the physicians in attendance ought to have known, regulation or no regulation, that the danger of transmission by milk existed, and should not have permitted it to continue.

Group 2.—A man working in Minneapolis said to drink the city water came down with typhoid fever. His mother came from the home farm (in a prosperous Minnesota county, free

from typhoid fever) and nursed him without precautions for three weeks. She did not drink the city water while in Minneapolis. He died. His mother returned to the farm and shortly came down with typhoid. She was nursed without any precautions against contact. The father and three boys came down, the father and one boy dying. Meantime, a good deal of visiting had occurred between this farm and another occupied by relatives situated on another quarter of the same section. The two convalescent boys, no doubt still infective, slept several times at the second farm. Apples, butter, etc., were exchanged between the families. Three sons in the second family came down, one dying. Personal investigation, including thorough inspection of the wells, and analyses of the water, excluded other sources than contact.

It is to be noticed that the first family (11 members) was prosperous, well-to-do, and intelligent; that cases ceased to develop on the advent of the trained nurse, who reformed the contact conditions previously existing; and that, from observation and deductions entirely of their own, the family now suffer the most bitter regrets that they did not know earlier (because they were not told by their physicians) the precautions which would have saved to them a father, a brother, and a cousin, to say nothing of the expense, worry, and general upset of eight cases of typhoid during four winter months.

Group 3.—An outbreak of typhoid fever in a village of 2,500 inhabitants yielded 37 cases, or apparently about 1.5 per cent of the population. The public water supply, as known from inspections confirmed by analyses, running back for several years in the Board's records, was subject to pollution, but, as usual, the village waited for an epidemic before reforming their supply. The typhoid outbreak was attributed to the water by the local authorities, and investigation showed the probability that some, at least, of the typhoid fever was due to that source. But this was not all. Of the three hotels in the village, one, using its own well, had no cases; one, using the public supply, had one case; the third, using the public supply also, had fifteen cases. Now, it would be extravagant to suppose that the third hotel lodged or fed 300 of the population, but for purposes of calculation it was assumed that this might be true. If the whole outbreak was due to the public supply, this hotel should have furnished the same proportion of cases as did the rest of the village, i. e., 1.5 per cent, or about four or five cases out of the 300 assumed as the hotel population. As a matter of fact, the hotel furnished three times this number. Attention thus directed to the hotel as having within itself some additional or secondary factor in typhoid production resulted

*Forms for the reporting of typhoid fever, calling for the data necessary in tracing an outbreak, and to be filled out by the physician when he first makes his diagnosis, are issued by the State Board of Health. Write to Dr. H. M. Bracken, Secretary and Executive Officer of the State Board of Health, St. Paul.

in eliminating any general secondary source of water or food infection; flies could be eliminated; and the conditions (shorthandedness, overwork, and general confusion in the administration) were such that contact in every form had every opportunity for existence. For instance, the first case in the hotel, the house-keeper, was attended during her illness by dining-room girls; when boarders became ill, they were attended by the hotel help, their discharges emptied by the day clerk; when the dining-room girls became ill, they were attended by other dining-room girls; the laundresses washed infected sheets, etc., from the patients' rooms; all without hand disinfection or disinfection of discharges; and all without interruption of the regular duties of any of the help, other than during the periods when the individuals were actually sick. As soon as the help recovered sufficiently, they went to work again. A study of the hygienic data for each individual case occurring in the hotel not only confirmed the hypothesis already deduced from the calculations given above and supported by the conditions found, but even permitted the tracing of a reasonably close sequence in the cases, indicating, reasonably clearly, the particular avenue of infection in each case.

A trained nurse was placed in charge with full authority to take all steps necessary to eliminate contact, with the result that, although two cases went to the hospital during the investigation (lasting two days), no cases have occurred since the nurse was installed up to the date of writing. This latter fact furnishes a further and therapeutic proof of the epidemiological diagnosis of contact typhoid for these cases. A summary of the cases, in order of occurrence, is given below, and it will be seen that, while the origin of the first two or three cases may be ascribed to the city water, the others are obviously contact, notwithstanding that the city water continued in use in the hotel (although instructed to boil the water, the proprietor of the hotel, up to the time of the investigation, had refused this precaution). It is not always that a contact outbreak running simultaneously with an outbreak from water, under conditions where exposure to both forms of infection exists, can be differentiated from the water outbreak. This outbreak is particularly interesting because of the clear-cut character of the differentiation made possible by the conditions found. Here contact conditions, *par excellence*, existed, and the records showed that the infection was not slow in taking advantage of them. The cases in order were—

1. House-keeper. June 1st or earlier. Sick in hotel. Nursed by husband and by dining-room girls.
2. Boarder. June 2d. The origin of these two cases was probably the public water supply.

A number of other cases in the village at large occurred about this time. It is possible the boarder became infected from the house-keeper, as the date of the beginning of the latter's illness (a light attack) was not definitely fixed.

3. Boarder. June 15th. Sick three weeks in bed in hotel.

4. Dining-room girl. June 16th. Sick in hotel. Nursed by house-keeper and by dining-room girls.

5. Guest. June 19th (an out-of-town case). At hotel May 29th to June 14th.

6. Guest. June 23d (out-of-town cases). At hotel, according to parents, June 9th.

7. Day clerk. June 22d. Emptied discharges of sick boarders.

8. Boarder. June 27th (out-of-town case). At hotel June 14th to 25th.

9. Dining-room girl. June 29th. Nursed other "help."

10. Boarder. July 1st. Sick two weeks in bed in hotel.

11. Dining-room girl. July 2d. Nursed other "help."

12. Guest. July 4th or earlier (out-of-town case). At hotel June 13th.

13. Laundress. July 11th. Washed infected bedclothes of Nos. 3 and 4.

14. Laundress. July 17th. Washed infected bedclothes of Nos. 3 and 4.

15. Guest. July 18th (out-of-town case). At hotel July 2d and 3d.

Besides these, another case married a dining-room girl early in June, and came down July 11th. The evidence in this case is not clear. Two other cases from out of town were said to frequent the hotel, but they were not registered there. The whole population of the town, outside of the hotel, yielded about 19 cases, or only 4 more than did the hotel alone. If all out-of-town cases be eliminated from the calculations, the hotel would still be responsible for one-third of the total remaining cases, or 10 out of 30.

AN EXAMPLE OF A CIRCULAR INTENDED FOR DISTRIBUTION TO INFECTED FAMILIES

This tentative circular is submitted here as an example of the sort of information which it is believed the physician should have in pamphlet form for distribution to all families where typhoid fever appears. Suggestions tending to simplification or to the addition of omitted details will be welcomed, and should be submitted to the Secretary of the Minnesota State Board of Health.

Typhoid fever is an infectious disease. The infection is always and chiefly in the excrement of the patient; sometimes also in the urine and saliva. The patient, after recovery, often remains infectious for some weeks or months.

No one ever "catches typhoid fever" except

by getting into his mouth some of the excrement, urine, or saliva of a patient who already has, or has recently recovered from, typhoid fever. At first sight it might seem that this cannot be true, for no one would ever take willingly or knowingly any of these things into the mouth. But, as a matter of fact, people are continually catching typhoid fever from others, *always* in just this way—*never* in any other way.

If you will stop and think carefully about it, you will see that this disgusting way of "catching" typhoid fever is not only possible, but can and must happen all the time; and is in fact the only way the disease is carried. For instance, the discharges of a patient thrown out or buried in gravelly soil near a well may soak through the soil into the well, or the discharges may be thrown or washed into a stream. The persons who drink water from such a well or stream drink the discharges also, much diluted it is true, and of those who drink such water some become infected.

But the water route is only one of the many ways in which excrement, urine, and saliva pass from the patient into other people's mouths. The most common of the routes other than water is by way of the hands, and a few of the ways that infection travels by the hands, are given here in detail. You may never have thought of these, but once you think of them you can never forget them again because the whole thing is so plain, simple, and reasonable. There is nothing mysterious about the transmission of typhoid fever, and anyone can see at once that it must be as is here described.

The Patient.—To begin at the beginning. A typhoid patient is usually helpless, and everything must be done for him: he must be washed, his nose and mouth wiped, and his bedclothes changed by some one else. He must be fed and given medicines by an attendant; he must have a bed-pan or urinal placed in position and removed as necessary. Often he requires injection into the bowel; sometimes he has involuntary discharges before a bed-pan can be placed in position. Sometimes his temperature must be taken in the bowel. After the use of the bed-pan or urinal it is difficult to clean his body thoroughly, and even after an amount of washing which removes all traces of visible dirt, the infection remains as numerous particles of matter on the skin or sheet or night-clothes. As the patient tosses about in bed these numerous particles are spread from skin to sheet, and back again, until the whole lower part of the patient's body and legs become smeared with particles of excrement and urine—very small smears and very thin, no doubt, leaving not even a stain to show their presence, but present all the same. A particle of excrement, spread out upon the skin so thin as to be invisible, may contain 100,-

000,000 of the bacteria which produce the disease.

Dangers to the Attendant.—It must be perfectly clear to everyone who considers these facts for a moment that no attendant can touch the body or bedclothes or urinal or bed-pan or injecting syringe or thermometer or anything else which comes into contact with the patient's body or legs or sheets, without the certainty of transferring at least a few of these bacteria to the hands. Now, everyone's hands go often to the lips and mouth every day, consciously or unconsciously. Watch anyone and see, or notice how often you do this yourself. If there be on your hands any of the discharges of a typhoid patient, consider how extremely likely it is that you will transfer them to your mouth.

Dangers to Visitors.—The patient's own hands also touch his own body, his own sheets, etc., as much or more than the attendant's hands do, and the patient's hands therefore become infected likewise. The patient touches his own face, pillow, books, medicine-glass, spoons, plates, etc. with his infected hands, and these, in turn, become infected. If the patient shakes hands with a visitor, or if the visitor touches only the patient's forehead with the fingers, infection is likely to be transferred to the visitor's hands. Merely shaking up a pillow or settling the sheets to make the patient more comfortable is likely to infect the hands of the one who does it.

Dangers from the Nurse to Others.—But the persons who come into contact with the typhoid patient directly are not the only ones who are in danger. Anyone who eats food handled by a person who has been in contact with the typhoid patient is likely to take into the mouth the infected material from that person's hands; for instance, it has happened over and over again that a hotel or restaurant waitress, nursing a sick relative and also waiting on table, has transferred typhoid fever from the patient to the boarder by handling the boarder's food just after she has emptied the sick person's bed-pan. In private families the mother often acts as nurse for the sick person and at the same time prepares meals for the rest of the family.

Food.—The hands of the house-nurse smeared with discharges from the patient, transfer some of it to the bread as she slices it for the table, to the spoons, forks, plates, etc., as she lays the table; so, too, as she breaks up ice for the ice-water jug, or washes greens, or opens a can of fish or tongue, to be served cold. In fifty ways her hands touch utensils or go into food continually while preparing the meal. The handling of the food does no great harm, if the food is afterwards cooked and is not again handled before it is served, because the heat of cooking kills the infection, but the handling of cold foods or drinks which are not to be cooked, is very

dangerous to those who eat or drink them, while the handling of plates, cups, spoons, etc., is also dangerous because they go to the mouths of different members of the family. In fact, *it is almost always true that if more than one member of a family has typhoid fever, the first case contracts it from outside sources, but the second and later cases get it from the first through the hands of the mother or whoever else is nursing the patient.* With a trained nurse, however, no such spread should occur, and it is not necessary that it should occur with an untrained nurse if the proper precautions are carefully followed.

Direct Handling.—Besides giving the disease to others through the food, the mother often directly puts her fingers into her children's mouths, perhaps to prevent them from swallowing a marble, perhaps to extract a piece of gum stuck to the teeth, perhaps to feel an aching tooth, or for other purpose. She, of course, is likely to wash their faces and hands, brush their hair, dress and undress them, and the infection on her hands, even if it does not go directly into their mouths, goes onto their hands, etc., and they, in turn, put their hands into their own mouths. Perhaps she handles their toys and infects these. The children put the toys into their mouths or handle them, and then put their hands into their mouths. These illustrations are sufficient to call your attention to the dangers of hand-infection from the nurse to the rest of the family.

Dangers from Helping the Nurse.—Often, even when a trained nurse is in charge of a typhoid case and almost always when the mother or some other relative is acting as nurse, members of the family, not regularly engaged in the nursing, "help out" by sitting with the patient at times, carrying out the soiled dishes, bedclothes, etc., or emptying the bed-pans or urinals. The latter, especially, is often done by the father or older brother. Those persons who thus assist, perhaps only by receiving a tray of dishes at the door and conveying it to the kitchen, run some risk; those who handle the bedclothes or empty the discharges run great risk, even though they handle them for but a moment.

Many cases have occurred amongst the members of a family who actually did no nursing themselves, but merely aided the nurse in various ways. Even if such persons do not infect themselves, they may infect others by touching their food or drink, helping in the kitchen or dining-room, dressing and undressing the children, etc.

Dangers to Neighbors.—Very often it happens that the father or brother who helps the nurse by emptying or burying the discharges, also milks the cows. He is then very apt to transfer infection to the milk, in the process of milking, for whatever he has on his hands is likely to go into the milk. Not only is the in-

fection thus added to the milk dangerous in itself, but it finds in milk an excellent food and actually increases in amount by growth of the bacteria which constitute the infective material. If he or the other members of the family drink this milk, they are very likely to get the disease. It frequently happens that a neighboring family buying a quart or two of milk a day from the family where typhoid fever exists, becomes infected with typhoid fever because the cow is milked by some one who is also helping to nurse the sick. The same danger of infecting outside families exists if any other article of food or drink is supplied to others from a family where typhoid fever exists, unless those who handle the article live entirely and absolutely apart from any communication whatever with the sick person, the nurse, or anyone who in anyway helps the nurse.

Dangers from Infected Articles.—Another danger from a typhoid patient lies in the washing of the dishes, bedclothes, bed-pans, urinals, etc. Often these are carried to the kitchen and allowed to remain piled upon the table or floor, perhaps mixed with the dishes, bedclothes, etc., of the rest of the family, and washed with them. It is true that the usual process of washing clothes, with soap and water, the clothes being boiled, will kill the infection, so that the clothing is free from danger after it is clean unless again handled by infected persons; but there is also a real danger, first, to the person who does the washing, handling the clothes, etc.; next, during the washing, the one who does it may, with her hands wet with the infected wash-water, take up kitchen utensils, receive food from the delivery man at the door; possibly after a hurried drying on the kitchen towel (which she infects in the process so that the next person who uses it becomes infected also) she prepares some article of food or drink, wipes the dishes, lays the table, or otherwise spreads the infection about the place. (The writer has seen the common kitchen hand-towel, after being used to dry the family hands, used also to dry the family dishes!)

Flies.—The final danger to the family and neighbors consists in admitting flies to the sick-room, or to dishes, bedclothes, or discharges in the sick-room or after removal from it. Flies, probably water-roaches, fleas, bedbugs, etc., may easily carry discharges upon their feet from the bed-pan or bedclothes to the family food or drink. A fly's feet and legs are covered with small hairs, and particles of feces easily stick to these. If the fly with typhoid feces on his feet falls into the milk or walks over the cake he leaves a trail of typhoid infection behind him. So also with the other insects named. Chickens may convey typhoid feces, thrown out upon the ground, to a well-curb where rain or waste pump-water may wash it into the well. The man

who buries the discharges may carelessly get his feet soiled and carry infection into the house in this way. If he washes the bed-pan or urinal at the pump, the washings may go through the curb, or run in under it from the side, thus infecting the well.

Precautions.—The trained nurse or the physician should know how to protect himself and should go through typhoid outbreaks without contracting the disease. This is done simply by *always regarding everything* in a patient's room as infectious, and never handling *anything* that is in or comes from the patient's room unless it has first been disinfected; if it is impossible to avoid handling the material before disinfection (in fact, some one must handle it before disinfection, in the very act of disinfecting it) then always immediately disinfect the hands. These two rules faithfully lived up to day by day, hour by hour, minute by minute, always and

in every case, will entirely prevent infection from spreading by way of the hands. To prevent spread by flies, first screen the patient's room, both window and door (the latter by hanging mosquito-netting over it); secondly, never leave clothes or discharges exposed to flies, even for a moment, without first thoroughly disinfecting them; thirdly, screen the kitchen, both windows and doors. If possible the whole house should be thoroughly screened throughout, and any collections of stable manure near at hand should be removed, since it is in such that flies breed.

For particulars as to disinfection of the feces, urine, saliva, bedclothes, bed-pans, urinals, eating utensils, etc., of the patient, and the hands of all attendants, disposal of feces, etc., see the circular of Minnesota State Board of Health upon this subject.

WIEN NASEN POT-POURRI*

By W. S. WOOD, M. D.

ALBERT LEA, MINN.

Vienna has always been a popular place for American physicians for post-graduate work of all kinds, not only on account of its abundant material, but, principally, on account of the clinical teaching. Since the organization of the American Medical Society of Vienna, in 1904, the advantages have been greatly increased. The professors in all branches are very glad to offer their services as teachers; especially so the first assistants, as they are required to spend a certain number of hours in the hospitals and have very little time of their own for private practice. They are very glad to teach, as teaching affords them considerable revenue and also stimulates them in their work. To be a privat docent, they must write a prescribed number of original articles and they must be elected by a University board of examiners. The hofrat must give a prescribed number of University courses during the year. By the co-operation of the committees of different sections the courses are arranged, and the hour, the number of students, and the fee are established.

Through the organization of the American Society and its recognition by the University, many desirable positions are secured in the ambulatoriums and hospitals in the various branches. The appointments are turned over to the Society and are booked according to its regulations.

Hajek's ambulatorium furnishes three places

and affords two hours' work daily. Hajek's office affords three or four places for assistants, and is even better than the ambulatorium. The men get about three or four hours operating daily. The chief assistants in both places are excellent men and give one abundant teaching.

Johann Fein, at the Wieden Spital, has one place and expects later to have enough material for three or four men. The differential laryngeal diagnosis at the Wieden are especially fine. Other branches in medicine afford the same clinical advantages. It is needless to say that these clinical opportunities are almost invariably filled by Americans.

In this paper I wish to refer to a few of the common pathological conditions of the nose, and to their treatment and operative technic as practised in the clinic.

HYPERTROPHY OF THE POSTERIOR END OF THE LOWER TURBINAL

This condition is commonly seen. It may be a true hypertrophy of the mucous membrane or it may be of an intumescent variety, varying in size according to conditions of the atmosphere and the health of the patient. These patients generally complain of difficulty in breathing through the nose, and especially of mucus dropping down from the posterior nares with hawking. Oftentimes a child is brought to you with a typical facial expression of adenoids, and on posterior rhinoscopy these hypertrophies are seen occluding the posterior cloana. Oftentimes the patient

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is ordered back again in a day or two for their removal, and one is surprised to find that these hypertrophies have nearly disappeared.

The technic of the removal of the posterior end is very simple. A cold snare is used with a 20 per cent solution of cocaine or, perhaps better still, a 10 per cent solution of alpine, as the latter causes less vasomotor constriction.

In the intumescent variety a person must engage the growth before contraction takes place from the anesthetic. The snare is shaped according to the case, and introduced backward until it is felt and also seen to pass over the posterior end. It is then manipulated upward and downwards so as to engage the tumor, and then drawn forwards until you feel a resistance. The snare is carefully closed, care being observed not to use any traction. When the snare is felt to engage, the speculum can be removed, and both hands used to close the snare. There is very little bleeding. The patient is told to remain in the waiting-room for one hour. No tampon is employed.

In many of these cases the dependent portion of the mucous membrane along the lower edge of the turbinal is also hypertrophied. These hypertrophies are removed with the snare and sometimes with scissors.

In intumescent rhinitis, with its accompanying symptoms of stenosis and secretion, the results are most gratifying when treated as above described. The hypertrophic tissue causing the excessive secretion is not only removed, but in healing the slight cicatricial contraction which follows, draws the mucous membrane more tightly over the body of the turbinal, and the stenosis is thus also relieved, having the same effect as linear cauterization, but with removal of the pathological tissue rather than destruction of the normal.

THE SEPTUM

The submucous resection of the septum has done much to attain a higher grade of work in nasal surgery. A deviated septum may or may not be pathological, and may require no interference. A stenosed nostril may be relieved by the removal of portions of the turbinal, but the side of the concavity still remains. This may be so large as to be in a state of atrophy, or at least may simulate an atrophic rhinitis, as dry membranes covered with crusts.

One frequently sees on the side of the concavity a very wide middle turbinal, occluding the middle meatus, suggesting the fact that it may have been responsible for the deviation; and an atrophic lower turbinal, or, less frequently, a hypertrophic lower turbinal, compensating for the increased caliber of the nares.

The only means possible of relieving these large nostrils (the side of the concavity) is by

reducing their caliber by the submucous operation. In this way the amount of air entering the nostril is lessened and the drying ceases.

The operation itself is not so difficult as one might imagine from the volumes seen in print. Good anesthesia is essential, a 20 per cent cocaine solution being applied and the field rendered as bloodless as possible by applications of adrenalin solution. Infiltration of Schleich's solution is also used. Hajek injects it very freely, more to raise the mucous membrane from the perichondrium than for its anesthetic properties. It is not possible to inject it so as to separate the perichondrium, but with the mucous membrane elevated there is less liability of getting a perforation.

The incision is made about a quarter of an inch from and parallel with the anterior-inferior border of the triangular cartilage; that is, as a rule. There may be exceptions, as in a subluxated cartilage, and unless contraindicated it is better to leave this little bridge of support. The perichondrium separates easier at this point than at the tip of the cartilage. Make the incision not only down to but through the perichondrium. This, you must see. There should be no bleeding to obscure the field. Start the perichondrium with a sharp periosteotome, and then substitute a blunt one as it separates easier and there is less liability to perforation. After separating the perichondrium and mucous membrane on one side, incision is made through the cartilage, and here care should be observed to go down to the perichondrium and not through it. The best guide here is the sense of touch. Place your index finger against the septum, and you can feel the blade penetrating the cartilage. The Killian speculum is used to separate the membranes, and the Ballinger swivel-knife is used on the cartilages, and a bone clonchotome on the vomer if any of its removal is indicated. Both nostrils are tamponed, the convexity being tamponed first. The tampons ordinarily are left in four days. In from two to four weeks a rigid septum is regenerated. In some cases there is no development of cartilage. This is due, no doubt, to the fault of the operator in separating only the mucous membrane.

THE ANTERIOR END OF THE MIDDLE TURBINAL

Hypertrophy of the anterior end frequently occurs and it is often wedged in between the septum and the lateral wall. In this lateral wall lies the hiatus semilunaris in which lie the openings of the antrum, the anterior ethmoidal cells, and the ductus nasofrontalis.

Not only is drainage interfered with, but a venous stasis results. There is a seromucous secretion, and there is an irritation of the nerve filaments with its associated reflex pains. The

catarrhal process extends by its solution of continuity into the accessory cavities.

A large, broad, anterior end is almost always of bullous formation containing one large air-cell lined with mucous membrane.

The indications necessitating excision of the anterior end are many, as a preliminary operation to radical and conservative treatment of the accessory sinuses in pressure cases as cited above. The symptoms of these pressure cases are so typical I will briefly refer to this case.

Miss X., aged 25. Complaint, excessive secretion, both anteriorly and posteriorly. Also had pain at times over one cheek bone. Inspection showed a deviated septum with crusta, one side being stenosed and containing much mucus. The side of the concavity was large, and the lower turbinal covered with crusts, no ulcers beneath. There was a discharge coming from the middle meatus. Although examined frequently no pus was noticed. On account of pain over the antrum a proof puncture was made with negative results. A submucous resection of the septum was performed, which healed nicely, and a firm cartilage was reproduced in three weeks. The drainage was improved on the stenosed side, and the crusts ceased to form in the nostril formerly enlarged.

In this case the middle turbinals were situated considerably posteriorly—back of the deviation. As they were enlarged and the mucoserous discharge persisted, the anterior one-third was removed, and the remainder three or four days later. Even under adrenalin the snare engaged with difficulty. Both contained large air-cells.

The results were very gratifying. In less than a month all symptoms ceased. Other indications for their removal I will not refer to now. I am referring only to the removal of the anterior end of the middle turbinal. A 20 per cent solution of cocaine is applied, and adrenalin is also used. A snare is used. The loop is narrowed and bent at an angle of about forty-five degrees to the shaft. If you choose you can make a little snip in the inferior anterior edge of the turbinal where you wish the snare to cut. This is a very good procedure, for, as you close the snare, it will generally slide anteriorly until it catches in this cut in the mucous membrane, and in this way you gauge the amount you wish to remove. The snare is introduced with the snare projecting upwards, the shaft below, the tip of the loop engages the upper anterior end of the turbinal. The snare is manipulated until it passes over the lateral walls of the turbinal, and as the snare is closed it can be felt to catch in the cut on the under side. The speculum can then be removed, and the snare gently closed with both hands if necessary. The cut is clean and smooth, and there is no bleeding.

In Hajek's ambulatorium no tampons were employed and the patients were requested to remain in the waiting-room one hour.

In Chiari's clinic tampons were used in all operations of the nose, and with a vengeance, it being the most trying ordeal of the whole operation. The nurse got a fresh grip on the patient, and the operator a good grip on his forceps, and amid the cries of the patient and the admonishments of the operator the tampon was shoved home.

Routine tamponing is also in force in Koshier's clinic. Middle-ear inflammation is very common in both these clinics following tamponing.

The only two cases of post-operative hemorrhage I saw were in these clinics, and both cases were tamponed.

EMPHYEMA OF THE ACCESSORY SINUSES

Comparatively speaking empyema of one or more of the accessory sinuses is not an uncommon disease, but working in a large clinic is liable to give one erroneous ideas. Still, it does frequently occur, and one should consider and be able to exclude this condition in cases of persistent headache. The symptoms are not always typical. It may be the open or the closed variety. There may, or there may not be, a discharge of pus.

In suspected cases a discharge of any kind should be carefully inspected as to character and location. One proceeds as follows: Given a patient, one sees on inspection pus coming from the middle meatus down over the lower turbinal. The turbinals are carefully noticed. With pus in the antrum there is generally a soggy swelling of the anterior end of the lower turbinal, and in chronic ethmoiditis the middle turbinal presents the same soggy, swollen appearance.

In posterior rhinoscopy pus is seen collecting over the lower turbinal. This pus may come from either the antrum, the anterior ethmoidal cells, or the frontal sinus, as they all open into the hiatus semilunaris, which is concealed from view by the middle turbinal.

The antrum is most commonly affected. The technic is so simple that a proof puncture is made at once. The under surface of the lower turbinal is anesthetized with a twenty per cent cocaine solution. A medium-sized needle is introduced beneath the lower turbinal to about the extent of one and one-half inches, and the handle is gently depressed downward and towards the middle line and drawn forwards. As the needle is drawn forwards the point is felt to slide into a concavity. This is the thinnest part of the antral wall, and only slight pressure is necessary to pierce it. I have never found this little concavity absent, and find it an excellent guide as to the point of puncture. A syringe of air is then injected to make sure you are in the

cavity. The patient's head is inclined forward (the nose having been previously cleaned with an application of cocaine and adrenalin), and plain sterilized water is injected. If no pus comes away in the water the diagnosis is negative. The frontal sinus can then be washed out and if negative, empyema of the ethmoidal cells is made by exclusion. Removal of the anterior one-third of the middle turbinal is almost always necessary as a preliminary operation to this procedure.

In chronic cases, generally, if one ethmoidal cell is involved all are. On posterior rhinoscopy pus over the middle turbinal is conclusive of empyema of the posterior ethmoidal cells.

In antrum disease where involvement of the other sinuses is suspected, the nostril is first cleansed with a solution of cocaine and adrenalin and the antrum washed out as in a proof puncture. The patient is then requested to wait one hour, and if pus is again seen coming from the middle meatus it is conclusive evidence that other accessory sinuses are diseased, as the pus couldn't fill up the antrum in that length of time and overflow through the ostium, which is at the proper level of the cavity.

Conservative treatment of antrum empyema is

by irrigation, as in making a proof puncture, with sterilized water every second or third day.

In Hajek's ambulatorium Krause's operation is always done, only two Cowper operations having been performed during the past year. This can be accomplished with local anesthesia without any pain. One-half to two-thirds of an inch of the middle turbinal is removed. This is generally done as a preliminary operation, and the opening into the antrum made as soon as the cut end of the turbinal is healed. A pointed instrument is all that is necessary to break through the antral wall and a conchotome to round and enlarge the opening. The cavity must be tamponed to prevent the opening from closing.

Opening of the ethmoidal cells should be very thorough. A probe is introduced into the opening of the anterior cell and a sort of hook blade is introduced along side of the probe and the wall of the cell is broken down. The opening can then be enlarged and rounded with a conchotome; the partition between the cells is easily broken down.

According to Hajek meningitis is extremely rare where the cells are thoroughly opened and free drainage established.

PREVENTIVE MEDICINE*

By A. L. BAKER, M. D.

KASSON, MINNESOTA

The greatest problem which confronts the medical profession of to-day is the prevention of disease. This is of far greater importance than to cure the disease after it has once been acquired, hence the great aim of medicine in the future will be to maintain health. Were we to review the science of medicine and surgery for the past thirty-five years we could but be impressed with the important position preventive medicine has assumed. Surgery does much to relieve human suffering by removing disease, but it remains for preventive medicine to devise means to prevent it.

Through the means adapted to prevent disease, a better knowledge of its cause, and more rational treatment, the death-rate from smallpox has decreased 96 per cent; typhoid fever 60 per cent, and scarlet fever and diphtheria each, 80 per cent. Little did Jenner realize when he gave us vaccine as a preventive for smallpox, empirical though it was, knowing nothing of its real scientific action, that he was laying the foundation for future thought and

study which would finally lead to and develop into the science of preventive medicine. The discovery of bacteriology was the real underlying principle upon which preventive medicine has been built. Varro, as early as 115, B. C., anticipated the germ theory of disease. He asserted that there were certain minute animalculæ, invisible to the naked eye, which permeated the air, and entered the respiratory passages and invited and produced disease.

Plenciz, in 1762, advocated that all infectious diseases were due to living substances capable of multiplying within the body; and that each infectious disease had its own specific germ. Like all new theories advocated in advance of the times, they were treated with derision. The last half century has seen these theories confirmed through the development of the science of bacteriology and the adoption of the germ theory of disease, and, keeping pace with them, has been the evolution of preventive medicine.

Previous to 1850 little or nothing was definitely known concerning bacteria, infection, sepsis, and antisepsis. There were at that date few or no microscopical or chemical ex-

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aminations of the blood, secretions, or excretions. There were no boards of health and hygiene; sanitation and preventive medicine were in embryo, waiting for that little army of painstaking, persistent investigators, aided by chemistry and the microscope, to bring them forth to life and nurture them to their present magnificent proportions. The real science of preventive medicine was born when bacteriology and the germ theory of disease became established facts. Before that time the profession was groping about in the dark for a cause of disease and its mode of infection. The germ theory of disease and suppuration has been a boon to the unfortunates who perforce fall under the surgeon's knife, since Listerism has placed laudable pus, hospital gangrene, and post-operative suppuration among the relics of the surgical dark ages. The great advances in physical diagnosis and the scientific application of drugs and therapeutic measures have also been prominent in developing preventive medicine.

The knowledge bacteriology gave us of infectious diseases led us to a more rational knowledge of vaccination, and opened the way for investigation along the line of serum therapy. It also gave a new impulse to hygiene and sanitation, to the organization of boards of health, and the adoption of quarantine measures to prevent the spread of these germ-producing diseases. It remained for Pasteur to elaborate upon and explain fully the theory of vaccination by his first experiments upon cattle and sheep with the attenuated bacilli of splenic fever.

Louisiana, in 1865, organized the first board of health in the United States for the purpose of coping with yellow fever. This existed but a short time. Massachusetts, in 1869, organized the first permanent board of health. In the comparatively few years since then every state has its board of health, and every city, village, and township has its local boards, all working towards one common end,—that of preventing and controlling disease. France, Germany and England, each, have national boards of health, and it is to be hoped before long our own country will have its national health department, as well as its departments of animal industry, agriculture, etc.

National institutes are being supported by the government in some countries for the investigation and control of contagious and infectious diseases. Prominent among these are the German institute at Berlin, the Pasteur institute at Paris, and the Imperial institute at St. Petersburg. In our own country several institutes have been established through the munificence of our men of wealth. Among these

are the Rockefeller institute at New York for medical research, the McCormick institute at Chicago for the study of infectious diseases, the Phipps institute at Philadelphia for the study of the prevention and cure of tuberculosis, and the Carnegie institute at Washington for biological and chemical investigation. Nearly if not all the state boards of health have, working in conjunction with them, laboratories for the proper study of contagious diseases. From these aid is given the many local boards of health by imparting proper instructions to them, through the executive officer of the state board.

Sanitation and medical research go hand in hand to prevent disease, and one can hardly be considered without the other. Much might be said concerning the improvement in the sanitary condition of our large cities, and especially in the tenement districts. The milk, meat, and water supplies are being carefully, though not perfectly, safeguarded.

Typhoid fever is one of the most widely distributed of all the infectious diseases, and yet this can be classed as a preventable disease. Since the discovery of the specific germ of typhoid fever by Eberth, we have learned that the infection takes place through infected food and water; mainly the latter. Were the water supply always free from pollution, epidemics of typhoid fever would be practically unknown. During the last decade, Minneapolis, to her shame, has furnished nearly one-half of the total number of deaths from typhoid fever in the state, and still the good work goes on, with no attempt at improvement, in the interest of the undertakers. This record is undoubtedly due to the impure water supply.

The prevention and treatment of tuberculosis are now receiving more attention than any other disease. Much less stress is being laid on transmission by heredity. The education of the masses is to become a prominent factor in stamping out the scourge. People must learn that pure air, and an abundance of it, wholesome food to keep up the powers of resistance, good sanitary conditions, and cleanliness are the important elements in preventing and controlling the disease. Too little attention is being paid to the ventilation of our school-rooms, churches, and public halls. Too little care is given to the everyday cleaning of our school-rooms, and the prevention of dust from sweeping. Any case of incipient tuberculosis among either teachers or pupils should at once be removed from the school. More is being done yearly along the line of prevention by the enforcement of rigid rules regulating promiscuous spitting, and the disinfection of railroad coaches, street-cars, and other pub-

lic conveyances. An untold amount of good is being gathered by the laity and the profession from the tuberculosis exhibits now being held in our own country. An idea of the immense interest taken by the people may be gained when we consider that at least 50,000 people visited the exhibit recently held in Minneapolis. The sputum is the principal source of infection. Proper care of this, together with the disinfection of the clothing and room of the patient, will greatly reduce the liability of infection. All treatment for the cure of the disease has been as a whole disappointing. The latest fad, the out-of-door treatment, promises to be of value. Tuberculin, of which we expected much, has not proven to be what we had hoped, except as a means of early diagnosis, the importance of which is self-evident both as a means of preventing the infection of others and also of early placing the patient under suitable climatic and hygienic conditions. The early recognition of the disease alone presents any hope of a radical cure.

Cholera, yellow fever, malaria, and bubonic plague do not concern us as individuals in this northern climate; yet we are more than pleased to know that through preventive medicine, hygiene, and sanitary measures, our brothers of the South are being freed from the terrors of these diseases, provided definite and well-established rules of sanitation are carried out. Too much praise cannot be bestowed upon Carral, Lazear, and Meyers, followed later by Reed and others, for the heroism displayed in their successful efforts to discover the real mode of infection of yellow fever and malaria. There seems to be no doubt but that the infection takes place from the bite of certain species of mosquitos. We can hardly realize the immense value to the world, commercially, from this discovery. But for this the greatest project ever undertaken by a single nation, the Panama canal, would not have been undertaken again.

Serum therapy, it is hoped, is as yet in its infancy. Jenner laid its foundation, but it remained for Pasteur to fully develop the theory into one of scientific importance. The discovery of the cause of disease was a long stride in the direction of controlling it. Knowing how and why vaccine controls smallpox, led to the development of other vaccines and sera for both the prevention and cure of several of the infectious diseases. While some are in a measure disappointing, yet we believe they will be improved upon until they become either a preventive or curative agent.

The efficiency of antitoxin in the prevention and cure of diphtheria has long since been accepted as of inestimable value. Up to the present time no other disease has so completely

yielded to the curative power of serum therapy as diphtheria. By its use the mortality has been reduced about 80 per cent. The antirabic serum developed by Pasteur will ever remain a living monument to his name, by giving to mankind a preventive for one of the most dreadful diseases with which mankind may be afflicted. This serum is of no value as a curative agent after the disease has once manifested itself. It is reported as being successful in preventing the disease in about 99 per cent of all cases treated. We are only too glad to know that an institute is about to be established in our own state for the prevention of the disease. (It is now in operation.—The Editor.)

Tetanus antitoxin is growing in favor as a preventive. It is being used as a routine treatment by some in all cases of injury usually followed by tetanus. Its main use is as a preventive. Professor Roux has devised the intracerebral injection of the serum as a curative measure, and he reports excellent results, but the mode of use is rather too delicate to be adapted by the general practitioner.

Antistreptococcic serum is of great value in pure streptococcic infection, such as we see in erysipelas, septicemia, and true puerperal infection. In mixed infections, as in advanced tuberculosis, scarlet fever, diphtheria, etc., the serum simply eliminates the one factor for which it was intended.

Time forbids a further perusal of the subject, even in this disconnected way. There still remain infectious diseases of which we know but little. Of the cause of malignant growths we know virtually nothing, yet we live in the hope that during the next half century we may enroll tuberculosis, cancer, scarlet fever, and epidemic cerebrospinal meningitis among the preventable diseases.

DISCUSSION

DR. T. L. HATCH (Owatonna): Doctors do not go into politics enough. The medical profession should enter into politics to enable it to control medical legislation. We should have a department in Washington to take care of this matter. The medical profession is behind in this matter, and I believe it is incumbent upon medical men to make a united effort to secure better representation in all legislative bodies of the country, and to seek to establish a department in the President's cabinet whose function shall be to look after the interests of all sanitary matters, and of all matters of interest to the medical profession.

DR. R. C. DUGAN (Eyota): I have enjoyed Dr. Baker's paper very much, and I wish to emphasize that part of his address that refers to our schools. We ought to take more pains with the sanitation of the schools. There has been some work done with reference to the examination of the eyes, but very little effort has been made to establish a thorough sanitary condition, not only of school buildings, but of all appurtenances used therein. All books used by different scholars and everything

in the way of water-pails and drinking-cups, and utensils of every kind used by the children, should undergo thorough investigation at very frequent intervals. The condition of the children presenting themselves for attendance should also be subject to most careful inspection and regulation under the direction of a sanitary officer.

DR. J. E. CREW (Rochester): Enough importance is not paid to cleanliness during the care of infectious diseases. There should be more care taken, not only of the patient, but of the inmates of houses under quarantine regulations during the progress of the infectious disease for which the quarantine is established. Proper care exercised during the course of the disease would make the final cleaning up and disinfecting much more effectual in every way. This is an important matter, but many physicians are guilty of serious neglect of general conditions and surroundings of patients during the progress of infectious diseases.

DR. J. B. MCGAUGHEY (Winona): I am very much pleased with the able and painstaking manner with which the doctor has handled this subject. I regret personally that he limits his remarks to certain forms of disease. It has always been a matter of surprise that our boards of health do not attempt to counteract a disease which causes more suffering and loss of life than any other disease with which we have to contend. I refer to venereal disease. Against this disease no regulation measures are attempted.

In regard to Dr. Hatch's suggestion that our general government control these matters: I believe our general government will have very little to do with it. The fact is, that our general government cannot regulate, but the states can.

DR. CHARLES HILL (Pine Island): I heartily endorse the sentiments of the doctor's address. All through, the local boards of health fail, and are compelled to fail. Why we cannot regulate these sanitary matters is because the public will not allow

us to do so. They will not allow an inspection and an analysis. If the local boards were permitted to thus act, they would be more effectual. I would have the state board send inspectors and look after the condition of the schools and pupils in all conditions. I would have public bathtubs and places for exercise under general supervision.

In Germany they are exploiting what they call their "forest methods" of education, where they have their pupils study in what they call their "forest parks." I would have rooms for our pupils, but would insist upon an abundance of pure air. A student can learn as much in two hours in the open air as he can in six hours in a close room.

DR. W. T. ADAMS (Elgin): In the matter of preventive medicine it seems to me that surgery has done more for us than has been done in any other line of work. Formerly we were obliged to make all deductions from dead-house findings, but with the achievements of modern surgery we are enabled to study the anatomy and physiology of nearly every part of the body, and our findings are very contradictory of the findings of the post-mortem table.

It seems to me that achievements which have been rendered possible in this way have placed us in a very much better condition to contend with many diseases of the internal organs than we have been before.

DR. BAKER (Essayist): The hint thrown out by Dr. McGaughey that we extend the functions of our boards of health to control venereal diseases has been fully studied, but the subject is so broad that I cannot even attempt to deal with it in a paper of this kind. The subject is one of absorbing interest to all physicians. We ought to try to enact laws to prohibit marriage that causes disease. Lax marriage laws have a great deal to answer for. We should start discussion along that line. Let it become the subject of legislation. We have no laws to prohibit vicious marriages.

PUNCTURED WOUNDS, WITH REPORT OF A CASE*

By W. E. MOORE, M. D.

President of the South Dakota State Board of Health

TYNDALL, SOUTH DAKOTA

The above title implies that punctured wounds should be disposed of first; after which the report of a case should be taken up, but in thinking the matter over I desire to report the case first.

The case referred to is that of a punctured wound of the foot. Mrs. A., aged 53, farmer's wife, mother of a large family, and in good health, while out about the chicken-house stepped on a nail, which penetrated the foot, making a punctured wound. She said although the wound from the first was painful she thought little about the matter, applying home remedies and going about her household duties in the

usual manner until the fourth day after the accident when her foot grew suddenly worse, the pain increasing, and the foot becoming greatly swollen and inflamed. The next day, being the fifth after the accident, she was taken to Scotland, and Dr. Stonebraker was called in. He at once telephoned me to come up and to come prepared to do an amputation. We visited the patient as soon as possible, for it was then late in the evening. On examination we found the following conditions: temperature, 104°; pulse, 130, and of fair volume; the patient somewhat delirious; the foot completely gangrenous, with the line of demarkation well formed entirely around the foot, just below the malleoli, and the entire leg enormously swollen and edematous,

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of a dark purple color half way to the knee; and the patient complaining of great pain in the foot and leg. The doctor and I both hesitated a little about amputating because of her unfavorable physical condition, but after talking the matter over for a short time we decided to amputate at once, the parties all consenting. The operation was hurriedly performed and completed about 10 p. m., with the patient in profound shock, no palpable pulse at the wrist, and profuse cold perspiration; however, her mind was quite clear, and in twelve hours she rallied from the shock and in due time made a good recovery. For the reason that the tissues of the lower half of the leg were in such bad condition I was compelled to amputate four inches below the knee-joint, and she wears her artificial limb quite well.

The serious results in this case following a punctured wound of the foot by stepping on a nail, impressed me with the necessity of properly treating these wounds early. Unfortunately, many of them do not come under our observation until an infection is well under way. If any infected wound has been inflicted by a penetrating instrument and comes immediately under observation, it should be incised at once and cauterized. But this is a different thing from an infection already established—one in which a day or two of time has elapsed since the wound was inflicted, or one in which the degree of virulence is hard to determine, or one in which there are pain and hyperemia but no pus. The time and place of accident will influence us somewhat in our method of treatment for the reason that we have in mind tetanus, general septicemia, metastatic abscesses, and gangrene as possible results, depending somewhat upon the conditions under which the wound was received.

When a patient is brought to our office suffering from a punctured wound of some part of the body—and these accidents are by no means rare—we must take into account two things: first, the elimination of germ influence as far as possible; second, how to localize the bacterial invasion already established. To eliminate all germ influence in an infected wound of a few days' standing is manifestly impossible, for obvious reasons, but we can reduce the amount of infection very materially by judicious treatment, and can do much toward localizing the infection. To accomplish the first a free incision of the wound should be made, and it should be as deep as the original perforation and washed out with compound tincture of iodine. To localize the infection to as small an area as possible, three things are of importance: heat, moisture, and rest. Heat and moisture favor hyperemia, thus increasing leucocytosis and tending to destroy germ influence. Bier, in his method of

treating localized infections, gives us something of value in many instances, which very materially increases local hyperemia. Of equal importance is rest of the injured part. Rest tends to localize the infection and goes far to prevent the invasion of the general blood-current.

Preceding all that I have said relative to the treatment of infected perforated wounds, I have omitted one step, namely, the best method of cleansing the injured part preliminary to more active treatment. It goes without saying, if seen immediately after the accident, vigorous measures may be indulged in to aseptinize the part, but if several days have elapsed energetic treatment must be avoided for obvious reasons, namely, extravasating germs throughout adjacent tissues, thus increasing the infected area or perhaps setting up general septicemia, or setting free an infected thrombus, which may develop a metastatic abscess in some other part of the body, or directly infecting the blood-current and setting up a rapidly fatal poisoning. For these reasons if we have to do with an infected wound involving adjacent tissue, all trauma is to be avoided, and the part gently cleansed, and in this manner made as nearly aseptic as possible.

I have made the statement that all punctured wounds if seen immediately, or very soon after the accident, should be incised and cauterized for the reason that we assume all these accidental wounds to be infected. This may or may not be true, for, no doubt, many of these wounds are not infected. I have had many under my observation in which, for some reason or other, no active treatment was used, recovery following without any apparent infection. I must confess that I always feel better after using active surgical treatment.

I also spoke of iodine as a local application after incision, for the reason that I have learned from personal experience that this remedy gives better results than any other.

Referring to the case reported, I will say that I believe the gangrene was due to virulent germ influence, causing necrosis of the tissues of the foot.

In conclusion, then, we must assume that all accidentally punctured wounds are infected with some form of bacteria which may be mild or virulent, and if this be true, all punctured wounds, seen early or late, should be incised and treated in such way as to prevent infection or to limit and localize germ influence.

DISCUSSION

DR. C. B. MALLERY (Aberdeen): I have listened with a great deal of interest to Dr. Moore's paper and to Dr. Rock's discussion. I am sure that those of us who know Dr. Moore and have listened to his description of the case will realize that he was "up against it" and that it was absolutely necessary to amputate that foot at that time, to save his patient's life. I am glad that such a condition is unusual. I

have seen some desperate cases recover by the use of free incision, drainage, and the hot dressing as used by Dr. Rock; but in this case the short time from the receipt of the wound and the evident desperate condition, show that there was a desperately virulent infection present, demanding most radical and thorough action.

The question of amputation in these cases of gangrene calls to mind a paper in a very late number of the Journal of the A. M. A. by VanBuren Knott, calling attention to the frequency in which the gangrene extends above the line of amputation, requiring a second operation, which often fails. This, he says, is due to tension in the flaps, and to obviate this condition he amputates at the line of demarkation, and does not put any sutures in the wound whatever, dressing it with hot wet dressing for from 48 to 60 hours, changing frequently; then he opens the wound, puts in the sutures, and puts on a permanent dressing. I recommend this to your attention.

I can add nothing to Dr. Moore's treatment of the usual punctured wound, except that I make it routine practice, in addition to free incision and the use of tr. of iodine, to inject a preventive dose, at least 10 c. c., of antitetanic serum, for obvious reasons. I have seen some desperate cases of lockjaw from the most innocent-looking wounds, and from considerable experience in wounds where I had every reason to expect tetanus, and from the reports of Fourth-of-July accidents for the past three years, I have yet to find a case where the preventive was used which was followed by tetanus.

DR. G. G. COTTAM (Rock Rapids, Iowa): I think it will be freely conceded that punctured wounds are accompanied by more complications than is any other kind of injury, and I think that the reason is not hard to find. In the first place, the people look upon punctured wounds as of minor importance, often treating them improperly with home remedies before seeking professional aid, while in the case of lacerations and contusions they are more apt to take a more serious view of the case. The profession itself has been somewhat negligent in the matter. I think that too often it has been the case that there has been a tendency to apply occlusive dressings. The tetanus bacillus is an anaerobe, and of course the sealing of the wound by a closed dressing directly favors the development of that germ. I am therefore heartily in favor of free incision, which has the double advantage of providing adequate drainage and of allowing free access of air to all parts of the wound. The use of an antiseptic or not is immaterial if this is done.

Discussions of matters of this kind are of the highest importance and may well replace that of highly specialized topics, which do not really interest practitioners in a general society. Cases like the one the doctor has related may occur in any one's practice, and yet nowadays we do not often have an opportunity to hear papers on the subject. I feel that no program should be considered complete without at least one paper on the commoner injuries, with especial reference to the disastrous complications which not infrequently are met with in connection therewith.

DR. D. W. CRAIG (Sioux Falls): This method is all right, and it is the safest, but it is a very difficult matter to get the consent of the patient or parents for so thorough a treatment. We should open, drain, and elevate the injured member, using a large, hot, moist dressing, entirely covered with gutta serena tissue.

For fifteen years I have had more or less experience with these punctured wounds. It is a safe and good plan to apply 95 per cent carbolic acid on a swab and follow with an alcohol swab, and then drain, and apply the hot wet dressing. This is routine practice with me, and has always been followed with

good results. Such dressings, of which antiphlogistine is a type, should never be employed. It is taking too long a chance. There are too many tetanic bacilli, as well as others, abroad in the land to justify any such half-way treatment.

This paper, as well as its discussion, has been of great interest to me.

DR. D. E. ARNOLD (Aberdeen): I most certainly object to the injection of carbolic acid beneath the deep fascia. When we have an infection, which we almost always have with this kind of wounds, you cannot follow the exact puncture with a hypodermic needle one time in ten; and when you do not, by injecting the acid you put a wall, impervious to the air, between your infection and the outside, making an ideal culture-bed for the growth of the tetanus bacillus. It will take several days for the effects of your burn to slough out, and in the meantime the bacilli have had plenty of time to develop.

The essayist spoke of his case where the foot was punctured almost through, and he could not drain it properly. I had one of that kind recently, and I completed the puncture; that is, I made an opening on the top of the foot to connect with the one in the bottom, and pulled a piece of iodoform gauze through the foot, and in that way established drainage.

DR. O. R. WRIGHT (Huron): I was pleased when the gentleman from Luverne spoke of Dr. Maunell's treatment of these infected punctures. I was also in Chicago that year, and so had the treatment impressed on my mind.

During the summer of 1893 I had occasion, after a cyclone at Pomeroy, Iowa, to use it with good success on hundreds of punctures of different parts.

DR. A. C. STOKES (Omaha): I have been very much interested and instructed by the paper of Dr. Moore, as well as by much of the discussion which has followed. However, the latter part of the discussion has gone astray, in my opinion, to some extent.

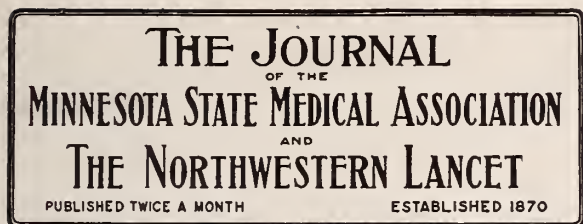
The principles of the treatment of punctured wounds must necessarily be the production of good drainage, with antiseptic applications. The prevention of drainage does not seem to me to depend so much on the skin as it does upon the fascia which the instrument has punctured, and which usually closes behind a small hole leaving the germs penned up, either beneath the superficial fascia or the deep fascia, as the case may be. Ordinary infections above the superficial fascia do not amount to much with the exception of the erysipelatos infections.

The line of treatment, therefore, should be to open up the fascia and drain. The use of antiseptics is to me rather immaterial. I think there are a good many good ones. Personally, in a case of this kind, I should prefer to wash out the wound with a one or two thousand bichloride of mercury solution; pack the wound with iodoform gauze, or even simply plain gauze; and put on a wet dressing of bichloride of mercury for a period of three or four days, when the dressing could be changed to a dry one.

I do not believe in the cauterization of these wounds with carbolic acid. It usually does more harm than good, oftentimes not killing the germs and closing up the lymphatics and blood-vessels, and precipitating a heavy, dead tissue over the live tissue, and preventing the exit of the micro-organisms.

I enjoyed Dr. Moore's paper very much, and I thank him very kindly for the presentation of the subject.

One should inquire carefully for the history of the application of carbolic acid to a wound, especially of the finger or toe, when a gangrene with a distinct line of demarkation has developed.—*Am. Jour. of Surgery.*



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THE MINNEAPOLIS CITY HOSPITAL

The new administration wing of the City Hospital in Minneapolis is approaching completion and will soon be ready for occupancy. With the finishing of this wing, the Board of Correction and Charities will have spent in the neighborhood of one hundred and fifty thousand dollars, and when the entire building is completed by the addition of another wing, as outlined in the plans of the architect, the entire cost of the structure will be not less than two hundred and fifty thousand dollars.

When the National Association of Correction and Charities met in Minneapolis in June of this year many of its members inspected the old and the new buildings and expressed themselves as extremely gratified with the showing made. The buildings are all modern, the floors are solid, the marble and stone wainscoting is substantial and attractive. The administration department has an imposing marble staircase, the floors are mosaic tile, and the supporting pillars are artistic and decorative. The whole structure looks as if it were built for a lasting purpose, that of the housing and care of the city poor and the convenience and comforts of the administration staff. The operating, sterilizing, and dressing rooms are large and bright and are fully up to the requirements of an up-to-date hospital.

It has been said on good authority that no hospital in the middle west has been so carefully planned and constructed as the City Hospital in Minneapolis. This compliment will redound to the credit of the Board of Charities and Correction, the citizens and taxpayers, and the committees who have made this great building a possibility.

To medical men and others who are interested in the care of the sick, the new City Hospital will be a center of admiration and will do much toward placing Minneapolis in the foreground.

Of greater importance, however, is the administration. For the past three years the selection of a city physician has been brought about through the consultation of the Hennepin County Medical Society and the Board of Charities. The present City Physician, Dr. O. E. Linger, has taken the same serious and professional view of his duties as did his predecessor, Dr. Beckman. Both of these men have given their time to the upbuilding of the institution regardless of any political affiliation, and both have added materially to the interest taken by the board who are in charge of the hospital construction.

The hospitals in Minneapolis are adding to their floor space, new buildings have been constructed and opened, and the generosity that has been displayed by the friends of each institution is an evidence that the sick will receive proper attention.

The City Hospital is admirably adapted to clinical teaching. Lecture rooms, laboratories, amphitheaters, and operating and dressing rooms are so arranged that the teacher and student are brought into close communion. There has been no effort to restrict the staff in their work. They have been encouraged to attend the sick and are provided with every convenience for teaching the students. The art of history-taking and the filing of records have been so systematized that it is possible to obtain all the information necessary at any time for any given case.

The public attitude changes with improved methods. Many years ago the hospital was an object of suspicion; now it has gained a high place in the confidence of the people.

THE LABORATORY WORKER AND THE PRACTITIONER OF MEDICINE

Two excellent articles have recently appeared calling attention to the relation of the laboratory worker to the practitioner of medicine. Very many of the advances of the last few years that have brought the different branches of medicine nearer to a real science, have been largely due to laboratory methods of study and at the present time the laboratory worker unquestionably dominates the field of medical

thought. So far as this state of affairs has served to stimulate laboratory research, it has been only beneficial, but, unfortunately, as laboratory work has gone up in professional estimation, bedside work has gone down until, as Holt expresses it: "They (the laboratory workers) form a sort of oligarchy to whose decrees those who study medicine at the bedside only must needs submit, often with a subconscious feeling of their own inferiority." Nothing has yet been found in diagnosis, however, which does away with the necessity for careful bedside observation of a case, and it is unlikely that such will ever be true. Laboratory results have their greatest value when interpreted in the light of careful chemical studies, and family history and physical findings are just as important to-day as ever they were. The practitioner who relies with supreme confidence on the findings of the laboratory and fails to give his case that careful study which otherwise it might receive, not only denies to his patient that combination of method which results in the most accurate diagnosis, but is denying to himself that means of advancement which comes to every man in the careful study of the problems that meet him. What we need is not less of laboratory work and workers, but more and better bedside observers with more of the spirit of scientific advancement, and it is quite possible that the brilliant advances in the laboratory, in the last few years, may, in the near future, be duplicated at the bedside.

DR. JAMES CARROLL

There are few things to which the medical profession of America can look with more pride than the record of the commission appointed to study the transmission of yellow fever. Through its work the theory of Dr. Finlay, that transmission takes place through the mosquito, has been firmly established, and the possibility of absolutely eradicating yellow fever has been shown. By its work thousands of lives and millions of dollars' worth of property have been saved, and all the horrors of the old-time quarantine done away with. Of the original commission, consisting of Reed, Lazear, and Carroll, none now remain, all having died directly or indirectly as the result of their arduous work with yellow fever.

As soon as the commission became convinced that yellow fever was transmitted by means of mosquitos, Carroll voluntarily submitted to artificial inoculation, became infected, and thus constituted the first attack of yellow fever ever produced experimentally. Reed also was inoculated, but was an immune and failed to acquire the dis-

ease. As a result of his trying experience, however, in the yellow fever warfare, he returned to Washington broken in health, and died there in 1902 of appendicitis. Following Carroll's experience, Lazear also submitted to inoculation and died of the attack of yellow fever thereby induced.

In praise of these men nothing higher can be said than the simple statement of what they did. Their work will survive with that of Jenner, Pasteur, and Lister. For their personal heroism it is not easy to find a parallel. In Carroll's case, however, in addition to his final work, there are certain things which seem to deserve special mention. He enlisted in the U. S. regular army in 1874, when twenty years of age, and served as private, corporal, and sergeant up to 1883, when he was transferred to the hospital service, where he continued as hospital steward for fifteen years longer. In 1898 he resigned in order to complete a medical course, already begun while in army service. Three years later he graduated, and, after a post-graduate course at Johns Hopkins University, was appointed a member of the yellow-fever commission and began his great work.

Notwithstanding the service these men rendered, Carroll is the only one who, in his lifetime, received any recognition whatever from the government. On account of his advanced age he was unable to enter the regular army service, but in October, 1902, this age limit was waived in his case and Carroll was made an assistant surgeon. During the present year, largely as the result of the work of a committee of the American Medical Association, he was given advanced standing and made a major and surgeon, in which rank he died. On account of his impaired health his duties at Washington had been made light for several years. Reed's wife now receives a pension of one hundred and twenty-five dollars a month, and Lazear's the beggarly sum of seventeen. Their medical brethren, however, had been somewhat more mindful of the services of these men, and at Reed's death he was vice-president of the American Public Health Association, and Carroll, at his death, was vice-president of the laboratory section of the same organization.

THE WINDOW-TENT

In these autumn days, with their suggestion of coming zero and subzero weather, we shall do well to consider how far the outdoor treatment for tuberculosis can be carried, especially in the case of one whose power of resistance has been materially reduced by the progress of a disease as insidious as tuberculosis. We do not fear that too much stress may be laid upon the value of fresh air, but it is very doubtful

indeed if persons of low vitality can be safely thrust, say, from the steam-heated flat into tent-life where the temperature is near or below zero. A few very robust people in whom tuberculosis in its earliest stages has been detected may make such a change without immediate untoward result, and perhaps with ultimate cure; but such cases form a very small, if not an infinitesimal, part of those now taking the outdoor treatment. Of course our patients in whom we make even an early diagnosis of this disease cannot safely be allowed to remain in conditions that are dangerous in themselves even to those in vigorous health.

It is much easier to point out this fact, this danger, than to suggest the remedy in each case. Ideal conditions are not always obtainable with ample funds at one's command, for the sanitary house with perfect ventilation has not yet been built; without funds, the conditions are often such as to produce rather than cure tuberculosis. And so we turn to the tent, to the open air, but often so late that we go from bad to worse. A number of manufacturers have put upon the market a device called a window-tent, which, in case of necessity, may be a home-made affair, that seems to offer a solution of the problem of how to obtain fresh air and warmth in the coldest weather. This tent is simply a chute of cloth the size of the lower sash of the bedroom window. With the lower sash raised, one end of the tent is fitted into the window, and the other end hangs over the bed standing near the window. The sleeper thrusts his head into the tent, draws a puckering string around his neck, and thus finds his body in bed, protected by the usual clothing, while the head is really out-of-doors breathing pure air. An ordinary awning over the window on the outer side serves for protection against rain or snow. These tents were shown at the recent Tuberculosis Exhibit in Minneapolis and St. Paul, and are highly commended by the medical men who have used them. Dr. Charles Lyman Greene, of St. Paul, has used a number of the Walsh tents, and he is very much pleased with them.

THE JOURNAL-LANCET would like to have reports from its readers on results obtained by them in the outdoor treatment of cases of tuberculosis, and especially of cases finding the change from house-life to tent-life too severe. A timely warning may be of inestimable value to many who are suffering from this disease, and also to many physicians who are placing a too high estimate on outdoor life.

On October 28 there were 4,350 students registered at the State University, or 455 more than on the same date last year.

MISCELLANY

MEMOIRS OF THE LIFE OF DR. M. C. MILLET*

BY M. J. HART, M. D.

LEROY, MINN.

In life we are in the midst of death, none knowing upon whom the lot shall next fall.

Within the past few months death has claimed from the Southern Minnesota Medical Association one of the best and brightest men. It was my good fortune to be closely, even intimately, associated with Dr. Millet for a number of years, and for this reason I have been asked to give a brief account of his life and characteristics.

Though conscious that I can pay no adequate tribute to the character of our departed colleague, yet I am glad to speak some heartfelt word of my long-time friend. It has been truly said that character is that which we feel to be in an individual, but is unexpressed or latent, and in a man of so strong character as Dr. Millet one could but feel many potent forces that it would be difficult to analyze, to put into words.

Very early in his career he demonstrated the material of which he was made, the high motives which impelled him. He always sought results, not appearances. This was exemplified during his college career by his response to a fellow student who was congratulating him upon receiving the highest mark in the class in a certain subject: "I don't care for the marks," he said, "but I want to know the thing itself."

Never satisfied with present attainments he showed the mark of the true student, and thus has he given to the world of medicine much of new thought along the line of his specialty. He did not live long enough to accomplish for his profession all that he wished, nor to witness the result of much that he did accomplish; but, however much he has done, we that know him must always feel that the man himself was far greater than the work he accomplished. His was such a strong, such a forceful personality that he left an indelible impression on all the lives with which he came into contact.

Dr. Millet was born in 1868 near Racine, Minn. In his boyhood days he knew what hard manual labor was—working on his father's farm, and receiving his early education from the district school. He had, however, a strong ambition for a higher education, and he early made it possible for himself to attend the Normal School at Winona until he had completed the course.

After a short period of teaching his inclina-

*Read before the Southern Minnesota Medical Association, August 1, 1907.

tions drew him toward the study of medicine, and in 1892, at the age of 24, he entered the medical department of the State University, graduating with high honors in 1895. His work was always characterized by an earnest, persistent endeavor to get at the root of things. It was here that our lives were brought into most intimate contact, and I grew both to admire and to love him. I could not say too much of the benefit accruing to me from the close association during those years with his virile, forceful personality. It was here that the dread disease which finally took him from us first laid hold of him.

After graduation he began practice at Dover, Minn., but later joined me at LeRoy, where we were in partnership for two years. Here he so endeared himself to the people of the community that a gloom was cast over the entire village upon the announcement of his death. In many and many a home intensely strong was the feeling of the loss of a friend.

In November, 1898, he was called to join the hospital forces at Rochester, and it was here that he made the most rapid advancement along the line of his specialty. It was here that he won a reputation for advanced work along the line of kidney and bladder diseases, and he became an authority on the subject. It was here also that, as he came into contact with the hundreds of people coming to the hospital for treatment, and the clinics, all voices were united in highest commendation of him—of his work. Here, too, he endeared himself to his associates in the hospital.

He was married in 1901, and his home life was ideal, for he was by nature a home man, true and tender to wife and child. His happiest hours were spent at home, and it was a delight to the casual visitor or the intimate friend to be admitted to the family circle. When the dread messenger entered the peaceful, happy home in May, he came not unannounced as the disease, started in those earlier years, had been showing greater development since January, and yet with loving and efficient service those near and dear to him sought to stay the hand, but in vain.

Great was the loss to the medical world when such a physician as Dr. Millet died. When the springtime and summer life have passed, and the autumn with its sere and yellow leaf, and then the winter with its three score years and ten, and whitened hair have come, we can reconcile ourselves in some degree to the approach of the dread messenger who lays all men low, but when a man like Dr. Millet has reached a position where enlarged opportunities for usefulness spread out before him, and he is more capable than at any time in his life of rendering service to his profession and to his fellow

man, and death knocks at the door it almost challenges our faith to be able to say, "He doeth all things well."

Yet, great as the loss is to the medical world, it is, and ever must be, far greater to those of the inner circle, his friends and his family.

While apparently there should have been many years of usefulness in store for him and it is hard to reconcile ourselves to his removal from our midst, yet we may find some comfort in the thought that the force of his example, the integrity of his life, his splendid devotion to his profession, finding always satisfaction in service, will abide with us as a legacy that may be increased by emulating his example.

Dr. Millet in every walk in life came up to the full standard of a manly man. As a friend he was true; as an associate pleasant; as a worker serious, diligent, forceful. In his home he was kind, devoted. He was a man of positive convictions and fearless in the expression of them. He was candid, abhorred all show and sham, and scorned all posing and display. He was sincere and conscientious, both in private and professional life. He was genial and approachable to all, yet was choice and deliberate in his friendships. He looked for loyalty and good faith and, once assured of that, he yielded his whole heart to his friends. He was a man who kept his own counsel, therefore a man to whom it was safe for other men to trust their counsel. He loved to study people and in a few terse sentences would sum up the character of an individual with remarkable accuracy. He had no love for abstractions, but loved the knowledge that comes from observation and study, the knowledge of fact, which is the only proper ground of theory.

His chief interest and delight was always his fellow men. To them he devoted his services. It is said that a man's power is in direct ratio to his sympathetic understanding of the wants of others, and herein lay Dr. Millet's strength. He had an intense love for children, and they understood and loved him in return. During his daily life he built for himself in the hearts of all who knew him monuments richer and more enduring than words can ever build. In all his relations,—as husband, father, citizen, and physician—to know him was to admire him; and to think of him now is to mourn his absence. He was well equipped to make the journey of life, and so well did he deport himself on this but once-to-be-made journey, that wherever he tarried he left an impression that will not be effaced, and all with whom he traveled now mourn and lament the comrade they have lost.

His advice, his words, and the inspiration of his courage are closed to us forever, but we are richer in their remembrance.

Words are powerless to express the deep re-

gret that animates my heart by reason of the taking off of my friend. If I have been unable to express adequately the appreciation I had for him living, it is due to the feebleness of speech and not to a lack of heartfelt sorrow.

SMALLPOX REGULATIONS

The following is an abstract of the new smallpox regulations which go into force January 1, 1908, in Minnesota:

The local health officer shall place upon the house where smallpox exists a sign setting forth the facts. This sign is to serve only as a warning to those who may wish to avoid the house, and not as an indication of quarantine.

The apartments occupied by a smallpox patient, when vacated, shall be thoroughly disinfected under the supervision of the local health officer.

Every physician shall immediately report in writing to the local health officer, the name of every smallpox patient under his care, and the death of any smallpox patient under his care within twelve (12) hours thereafter.

The State Board of Health expresses its views on the subject of vaccination as follows:

"Since the days of Jenner it has been well known that vaccination will prevent smallpox. Without going outside of our own state, the records of the past few years show that quarantine has done but little towards preventing the spread of this disease. The intent of the sanitary authorities has been to quarantine rigidly all discovered cases, and yet in spite of this the records of Minnesota show up to Aug. 1, 1907, 31,201 cases, with 220 deaths. There have probably been at least 50,000 cases of smallpox in Minnesota during the period referred to above (Jan. 1, 1899 to Aug. 1, 1907), for many cases were not reported and hence not recorded. Every careful observer will testify that the smallpox cases coming under observation in the above record have not prevailed among the well vaccinated people of Minnesota.

"With these facts before the Board it seemed unwise to continue placing a heavy financial burden upon citizens and municipalities in a continued attempt to control this disease, in whole or in part, by means of quarantine.

"Believing that vaccination is the only satisfactory preventive known for this disease, the Board at its meeting took action favorable to a provision of free vaccine, beginning with Jan. 1, 1908, the date upon which the new regulations relating to smallpox will go into effect.

"It is claimed by some of those opposed to vaccination that it is a means of spreading disease. This is not so. Syphilis and tuberculosis are diseases specifically named by anti-vaccinationists among the diseases transmitted by vac-

cination. This is absolutely false. The vaccine now used throughout the United States is taken from the calf. Calves do not have syphilis and hence cannot transmit the disease to man through vaccine. As to tuberculosis: any danger of transmitting this disease (a danger which is extremely remote under any conditions) is guarded against by testing the calves with tuberculin, and by examining the carcasses of the calves after they have been killed. If any calf used as a source of vaccine shows any evidences of disease the vaccine from that calf is thrown away.

"It is to be hoped that the citizens of Minnesota will fully appreciate the position taken by its State Board of Health—a position that is reasonable and wise both from the preventive and economical standpoint."

The rules and regulations will be published officially in this journal before January 1st, as required by law.

NEWS ITEMS

Dr. A. L. Kuske has moved from Clements to Sanborn.

Dr. W. E. Truax has resumed practice in Breckenridge.

Dr. O. Martel has moved from Young America to Waconia.

Dr. August Gronnerud has moved from Kennedy to Bronson.

Dr. W. F. McCarthy has moved from Maple Lake to Center City.

Dr. J. H. Beaty, of St. Cloud, has returned from his European tour.

Dr. J. F. Norman has moved from Grand Forks, N. D., to Crookston.

Dr. G. F. Swinnerton, State University, '06, has moved from Caledonia to Chester, Iowa.

Dr. A. D. Haskell, State University, 1900, of Carlos, was married last month to Miss Effie May Campbell, of Minneapolis.

Dr. O. Y. Warren, for ten years superintendent at the Warm Springs (Montana) State Hospital for the Insane, died last month.

Dr. G. A. Holdrige has begun work in St. Cloud, where he recently moved. He has been doing post-graduate work in Chicago.

Dr. Augusta I. True has moved from West Concord to El Reno, Oklahoma. Dr. True went south in order to be in a milder climate.

A building permit has been taken out for the building for the Henry Christian Memorial Hospital of Minneapolis. The cost will be \$45,000.

Dr. Meirding, who has had care of Dr. Beaty's practice at St. Cloud, during the latter's absence, will spend a year or two in a New York hospital before beginning practice.

Dr. Truman R. Humphrey, of Sleepy Eye, died last month at the age of 94. Dr. Humphrey came to La Crosse, Wis., in 1858, and to Brown county, Minnesota, in 1864.

Dr. E. W. Ryerson, of the Chicago Policlinic, performed two orthopedic operations at the clinic given by the St. Louis County Medical Society last month in St. Mary's Hospital, Duluth.

The State University of Wisconsin has established a two-year medical course in connection with the Colleges of Arts and Science. Dr. Chas. R. Bardeen, of Madison, is dean of the faculty.

Dr. E. A. Loomis, of Waconia, has purchased an interest in the Lidgerwood (N. D.) Hospital. Dr. Sasse will remain for some months, and then take an extended post-graduate course in Europe.

Dr. W. E. White, of North Dakota, secured a verdict in the United States court at Minneapolis, against the B. & O. railroad for \$400 for injuries on the railroad resulting in an attack of appendicitis for which an operation was performed.

The Minneapolis Eye, Ear, Nose and Throat Infirmary, a new charitable institution, has moved to new quarters at 644 Sixth avenue No. The infirmary has been established ten months and has had 111 patients. Its progress has been gratifying to its conductors.

The Swiss Society of St. Paul recently took up the matter of recommending a successor of the late Dr. Stamm as Swiss consul for the Northwest. The votes of the society were equally divided between Dr. Stamm's son and Dr. C. T. Grivelli, of Young America, and it was decided to send both names to the Swiss government.

The fifty-sixth meeting of the Crow River Valley Medical Society was a joint meeting with the Meeker County Medical Society in Litchfield, Wednesday, Oct. 7th. The following papers were read: "Post-Partum Hemorrhage," by P. H. Bennion, M. D., of Merriam Park; "The Treatment of Enterocolitis," by E. Y. Chilton, M. D., of Howard Lake; "Tuberculosis, with Report of a Case," by John C. Jacobs, M. D., of Spicer; Dr. Karl A. Danielson presented some cases of tuberculosis, with special reference to the treatment by tuberculin.

The Wright County Medical Society held its regular annual meeting at the American House in Buffalo Monday afternoon, Oct. 7. The meeting was well attended, and the program a suc-

cess. Dr. Chas. N. Spratt, of Minneapolis, read the paper of the afternoon on "Deafness: Its Causes and Treatment." Officers were elected for the ensuing year, as follows: President, Dr. A. M. Ridgway, of Annandale; vice-president, Dr. C. L. Larsen, of Buffalo; secretary, Dr. John J. Catlin, of Buffalo; treasurer, Dr. A. L. Hill, of Monticello. The next meeting will be held the first Monday in January.—JOHN J. CATLIN, M. D., secretary.

The county societies of the First District will hold a joint meeting at Crookston on Thursday, the 7th inst. The following papers will be presented after the morning business session (9 a. m. to 10 a. m.): "The Examination and Commitment of the Insane by the General Practitioner," by Dr. T. M. Thayer, Fergus Falls; "Glaucoma," by Dr. Thos. McDavitt, St. Paul; "The Physician and the Law; Some Practical Points," by Dr. E. R. Barton, Frazee; "Opsonic Therapy," by Dr. C. R. Christenson, Starbuck; "Suppuration in the Male and Female Pelvis," by Dr. Archibald MacLaren, St. Paul; "Cerebrospinal meningitis, with Report of Cases," by Dr. W. J. Awty, Moorhead; "Pleurisy," by Dr. H. Holte, Crookston.

FOR SALE

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PREVENTION OF PROSTATIC HYPERTROPHY*

BY HARPER PEDDICORD, M. D.

ST. PAUL

Prostatic hypertrophy has been recognized as a destroyer of the urinary function for many years, but only since the latter eighties has surgical attention been directed to the prostate gland, and during the past ten years literature upon this subject has become voluminous. Socin and Burkhardt have recently published a volume of several hundred pages of references to prostatic literature. The infrapubic and suprapubic operators have been vying with each other in devising and executing safe and skillful operations for this region, so that, in many instances, a patient is relieved from a painful and desperate condition and restored to years of comfort and health.

In former years the so-called condition of prostatism was allowed to progress until one of two alternatives were at hand: death on one side or an operation under very unpromising conditions on the other. The fact, however, that the operation of prostatectomy can be performed at this time without great risk to life, is no argument whatever that the physician and surgeon should be content to rest here, for prevention should just as much be sought after and kept in mind as in the case of typhoid or puerperal fever.

While not losing sight of any of the present achievements or demands, it is for an extended defense against this very common condition that a plea is urged; for it matters not how skillfully performed and with what results, a prostatectomy is a hardship and a risk. So it is felt

that during the past five or ten years the attention bestowed on the factors which contribute to this condition, and how they may best be avoided, has been in inverse ratio to their importance.

It is unnecessary to speak at length in regard to the anatomy of the prostate gland, other than to say that it is a compound tubular gland, which is ordinarily about the size of a horse-chestnut, and surrounds the first inch and a half of the urethra,^o or neck of the bladder. The prostate has from ten to twenty-five ducts, which open on the floor of the prostatic urethra on either side of the caput gallinaginis. These ducts are very narrow, are lined with columnar epithelium, and lead to the alveoli of the gland, which are massed on the lateral borders of the urethra, so that they are spoken of as the right and left lobes. Posteriorly the lobes are joined by a fibrous commissure containing a small amount of glandular tissue, which, upon enlargement, is known as the middle lobe. Anteriorly there is only the fibrous commissure. The prostatic framework contains some unstripped muscle, and the glandular portion is divided into septa by connective tissue, which unites on its surface and forms a dense capsule.

That the prostate is of a sexual nature there can be but little doubt, as it takes on activity and enlarges about the time of puberty in a corresponding degree to the balance of the sexual apparatus. The prostate has been called the sexual brain. Its exact function is still in doubt. Furbinger has shown that spermatazoa lose their motility in the absence of prostatic secretion.

*Read before the Minnesota State Medical Association, August 13 and 14, 1907.

Whether the prostate supplies some endogenous secretion is not known.

The writers during the first half of the last century believed in an inflammatory origin of prostatic hypertrophy. This early belief has more or less lost favor at times, first through the theory that prostatic hypertrophy is a part of a general as well as a vascular sclerosis which makes its appearance late in life. Another theory advanced was that late in life there is a sagging of the bladder-cavity in certain cases, resulting in an essential hypertrophy through efforts to completely empty the bladder. Again, the condition of prostatic hypertrophy was supposed to have its analogue in the female in those cases where there is a deposit of fibroids in the uterus. These propositions as etiological factors in this condition have had such able sponsors as Guyon, Harrison, and Billroth, respectively, with many others. But with the more recent microscopic study of pathologic prostates, and supposedly normal ones, there has been a return to the theory of the inflammatory origin of prostatic hypertrophy; in fact, this belief has never been discarded by many investigators.

Since the opinion is gaining ground that prostatic hypertrophy is caused by chronic prostatitis there has been an effort to ascribe all cases to an active infection that is either gonorrheal or, since the colon bacillus and staphylococcus have been found in the prostate, to one of these organisms, but only with indifferent success.

Cicechanowski has made more extensive research than any other worker, in support of the gradual inflammatory changes that take place in either hypertrophy or atrophy of the prostate gland. It is not purposed here to make any lengthy argument to establish a causal relationship between prostatic hypertrophy and chronic prostatitis. To quote Crandon briefly whose general support is not different from any of the authorities who support this view: "There is then obstruction of the exits of the ducts, those nearest the urethra, and consequent retention of the glandular secretion and other products of epithelial activity in the proximal parts of the gland system. The obstruction is gradual, and at this period the muscular coat of each gland may hypertrophy to expel the glandular contents against opposition. Complete obstruction being established passive glandular dilatation proceeds and general enlargement results."

Daniels' work may also be spoken of where not only well-advanced hypertrophied prostates were examined, but supposedly healthy ones, and these form subjects of all ages. Foci of inflammation, or alveoli, could be made out in prostates from men before middle life which in no wise differed from the advanced changes found in chronically hypertrophied prostates; but in the

latter the condition was more general throughout the gland. Commencing inflammation could be demonstrated in some prostates taken from subjects as early as the twenty-second year. There were desquamation of the epithelium lining the prostatic ducts, and stasis of material in the alveoli, and, in some cases, blocking of the ducts with epithelium or amyloid bodies; in other words, the initial changes one would expect from a chronically congested prostate.

So, given one alveolus with its outlet blocked by desquamated epithelia or congestive products, and the way is paved for a progressive congestion and infiltration followed by a prostatitis. When this condition has gone thus far, as elsewhere in the body, its ultimate outcome is largely governed by the subsequent mode of life, personal hygiene, and individual reaction.

Whether there will be glandular hyperplasia or a more prompt fibrosis is immaterial from a clinical standpoint, as both are different aspects of the same process. To again quote Crandon: "The so-called enlargement of the prostate, as well as certain forms of atrophy, are related histogenetically and have a common cause," which, in this instance, is equivalent to saying they are both of inflammatory origin.

The direct cause of this congestive and inflammatory condition of the prostate, which according to authorities and ample clinical evidence is the forerunner of prostatic hypertrophy, is not positively known. Cicechanowski notably, with some others, inclines to the gonorrheal origin. Greene and Brooks believe it to be due to a continuation of a chronic posterior urethritis, from whatever cause. Keyes, after a study of four hundred and thirty-three cases of chronic prostatitis, could find no especial evidence to give gonorrhea an important place as an etiological factor. Lydston for a long time has maintained that chronic prostatitis directly and prostatic hypertrophy indirectly have a prime cause in sexual or prostatic overstrain, or, it might be preferable to say, faulty sexual hygiene. This same author has shown what has been hinted at by other writers, that this prostatic congestion need not be from active sexual indulgence alone, but psychosexual practices and other excitation are just as potent to bring about this result.

The factors which inaugurate the changes in the prostate are the long-continued and intense congestion, it matters not from what cause; and after a sufficiently long existence, when infiltration and beginning inflammatory changes and abnormal excitability or hyperesthesia occur, the sexual balance is lost and a vicious circle is established, which intensifies the condition.

This explains the fact that in some instances prostatic hypertrophy has occurred in men who have never had any venereal disease or have

never been exposed to any, but who, from faulty early environment and lack of instruction, may have been exposed to some manner of prolonged sexual excitation. The fact that physical continence alone does not constitute sexual hygiene in the young and unmarried needs to be impressed upon the laity and even upon physicians.

The theory which is here advanced in regard to the existence and cause of chronic prostatitis does not lack verification, so far as clinical evidence is concerned, as a careful examination of the prostates of men from the time of early manhood, who have complained of any symptoms which might be referable to the sexual sphere, and some who are conscious of no subjective irregularities, will reveal a startling number of either enlarged, tender, or nodular prostates. One of the chief difficulties in arriving at a diagnosis of a prostatic lesion is due to the location of the gland and to the fact that it is richly supplied with nerves which have an intimate anastomosis, thereby frequently reflecting pain or discomfort to some other point; and often when there are local abnormal sensations in the prostate of fullness, weight, or an irritability, it is attributed by the patient to hemorrhoids.

Certainly, the condition has been observed often, where some man during middle life has complained of a more or less constant lumbar or sacral pain, for which no cause could be found, and for which the usual treatments were of little avail, the true cause of which was only discovered when, later in life, the well-known urinary symptoms of prostatic hypertrophy made their appearance. Too frequently there is no inclination on the part of the physician to examine the prostate gland unless there has been a history of a past urethritis with posterior involvement.

The posterior urethra has borne the blame and stood abuse for many improperly understood urethral discharges. It has also been held accountable for most symptoms in the sexual sphere; in fact, Greene and Brooks conclude that chronic prostatitis is frequently caused by posterior urethritis. It is here felt that cause and effect may have been confused, and in the absence of an active gonorrheal invasion of the posterior urethra the urethritis is caused by, and is a part of, the prostatic condition.

While it is realized that the symptoms of chronic prostatitis may be subject to great variation, full accord is not given the statements made by some writers, that all manner of melancholias and insanities may have their cause in chronically diseased prostates, but that a state of mental depression with indefinite forebodings, and a state of psychosexual anarchy does often occur where there is an enlarged, tender, or nodular prostate there can be but little doubt. Although the contention is made that prostatic hypertrophy

has its chief cause in chronic prostatitis, the question which most concerns us is, can the latter be cured and can it be prevented? Clinical evidence urges that a prostatitis can be cured, with a subsidence of all direct and reflex symptoms.

For an examination of the prostate the well-known knee-elbow position with the patient bent forward will ordinarily suffice, but if a more careful palpation is wished than can be obtained in this manner the patient should be in the recumbent position with the bladder moderately distended, and then by suprapubic pressure the prostate can be well controlled, and in all cases its upper border reached by a finger inserted in the rectum, or a posterior dilator may be inserted and steadied with one hand and the examination made as above. In the cases where there is an enlarged and tender prostate in the young, with no nodules or bossed areas, but a boggy turgescence, which may be brought about by any of the forms of prolonged sexual excitement, particularly the soft enlargement, which many writers speak of as occurring in boys from masturbation; or after more or less irregular and emotional indulgence in venery where continence is maintained with so great an effort, we know of no measure that will so subdue irritability and restore sexual balance and control, as the daily application of hot normal saline solution to the prostate through the rectal irrigator for a period of ten days or two weeks. This course may be repeated after a suitable interim, if necessary. If any further sedative measures are required in this initial treatment, or treatment of this initial condition, 1-100 gr. hyoscine hydrobromide twice daily has been used with good effect and does not derange the stomach as the bromides are so likely to. If there is an accompanying congestion and hyperesthesia of the posterior urethra the weekly introduction of the largest sound possible, which should be left in place from five to ten minutes, or, in case of a narrow meatus, the posterior dilator, followed by a posterior irrigation with warm nitrate of silver solution, from 1-5000 to 1-1500, will give good results in most cases. Sexual hygiene for a given case is all that will be required for a permanent cure, and where hygiene enjoins restraint or continence, as in the unmarried, its mandates can be obeyed incomparably more easily after than before this course.

Where the prostate is, in addition to being enlarged and tender, nodulated and hard, showing blocked alveoli with resulting hyperplasia and probably different grades of fibrosis, the sexual sphere disturbed, reflex pains in the back, testicles, or legs, and especially if complicated by some gonorrheal sequelæ, more persistence and patience on the part of the physician and patient will be called for in the treatment. If the sensi-

tiveness of the prostate is very great a few irrigations will help to allay the pain and most disagreeable sensations which characterize the first attempts at massage of the gland under the above conditions; but, by regular and systematic massage of the prostate, it is hoped to unload dilated acini where occlusion of the ducts has not been complete, and to promote resorption of inflammatory products in infiltrated and blocked areas, so that a progressive condition may be converted into a harmless and indifferent one.

From the frequency with which cases are met where massage of the prostate has been performed every second day and in some cases every day, it may account for some failures noted, as a repetition of this process before there has been a subsidence of the temporary aggravation, which should follow a treatment, is often to court defeat and in some cases increase the irritability. Once a week is as often as most cases will do well under, particularly if the nodules are well worked up. It is always a good plan to have some fluid in the bladder during a treatment; if urine, after voiding, the posterior urethra should be irrigated with a warm solution of protargol, 1-3,000; permanganate, 1-5,000; or nitrate of silver, 1-3,000 to 5,000 which will have a stimulating effect upon the posterior urethra and may reflexly act upon the prostate.

It must be borne in mind that the measures here described are intended to apply to those cases where there has not been a general fibrosis of the gland, and care should always be exercised not to manipulate a prostate in a man advanced in life who has any of the indications of prostatic carcinoma, or in younger subjects if it is tubercular prostatitis, which are aggravated by any local interference.

The length of time treatment must be kept up depends upon the indications in a given case. Where there has been active infection of the gland, massage should be continued until pus disappears from the expressed secretion, which should be examined upon a cover-slip, or, if none appears at the meatus after massage, examination of the deposit which occurs in the voided fluid from the bladder, will show whether pus is present or not.

What has been recommended so far has been with a view to detecting and curing prostatitis. The chief preventive step, it is felt, will be the early inculcation of a few hygienic rules which will counteract the effects of the present ignorance and misinformation in the minds of most young people on matters sexual.

Very much has recently been written in regard to the instruction of the young in sexual hygiene as the greatest safeguard against venereal disease, and it is felt to be just as impera-

tively demanded in the prevention of the condition under consideration; however, the importance given to the role teachers, ministers, and physicians are to exercise in imparting this information to the young, is not fully concurred in; for, if early maturity has been reached, the sexual habit will have been formed and often an improper one or the normal control will have been lost. It would seem that a high-minded and intelligent mother would be the one to broach this subject to a child during the pre-pubescent state, but as all children are not so fortunate as to have a parent of the above type, the supplemental sources of correct information would have to be relied upon.

George Whiteside, in an article read before the Section of Hygiene and Sanitary Science of the American Medical Association last summer, stated that if much was to be hoped for from instruction it should be given during the precocious stage, or, in other words, during the formative period, as at this time the child's mind is plastic and, as has often been said, nothing remains like early impressions. There seems to be a wonderful unanimity of opinion among workers and writers along this line in the efficacy of some reliable instruction. The fact cannot be doubted that thousands of boys and young men who, through ignorance and vile misinformation, suffer from some form of sexual debauch or shipwreck, might have been saved by a few serious words from a trustworthy source.

No great amount of instruction is considered necessary: a few simple facts relative to the approach of the sexual impulse, its natural intensity, how it may be dissipated, the dangers of heeding or acting upon the advice of the evil and untutored, but, paramount to all, the establishment of a sane and rational relation between parent and child, so that when any difficulty arises in a child's mind he may have some one to whom he can turn for help and guidance, are all that is necessary.

It is not an encouraging commentary upon the integrity and sincerity of our present-day civilization that the knowledge of the function and process wherein reside the source and well-springs of humanity, which all must sooner or later acquire, should be, for the most part, gained from the ignorant, the vicious, and the depraved. The attitude of parents in this matter is hard to fathom, unless it be, as Max Nordau has stated, that most parents remember the source of their information along these lines and often their vicissitudes, and it can only be with difficulty dissociated from shame or embarrassment during after-life, and the subject is avoided, much as a thief avoids a discussion of pilfering. It would seem that the passive criminality of parents and people responsible for the young and

their guidance through what, under modern conditions, can be called the sexual maelstrom, would have been sufficient; but not so, for above and over all this has been the modern advertising quack, whose active mission has been to confound confusion in the young, deceive, if necessary, and always to fleece.

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DISCUSSION

DR. J. E. MOORE (Minneapolis): I have been as interested in the paper as the acoustics of the room would admit. For years it has been my practice when a patient came to me from forty-five to fifty years of age, giving a tale of woe, and stating that he had to get up in the night and wondering why, to tell him if he had sense enough to get up at night it was a good thing to do. The tendency in the average individual when he feels this inclination coming on at this time of life is to fight against it. He is afraid of establishing the habit of getting up in the night. He should take just the opposite view. It is a call of nature, and it is an imperative one, and I am satisfied if the average individual would respond to that call he would seldom find himself to be so situated that he could not, and more men would get along without surgical interference.

The point with reference to instruction of the young was well taken. We as fathers and members of the medical profession owe a great deal to the community, but this education should come from the parents and not from the physicians. Every mother owes this duty to her daughter, and every father owes it to his son, although it is generally neglected. The son should be taught when he wakens up some night about the time he is sixteen years of age and has a peculiar sensation that it is a physiological experience. He must not get one of those little "green books" and read it, because if he gets one of those he will be told that this is a sure preliminary to some great disaster, and he will go to that man to get his advice. The boy admits that he has responded to a natural impulse, and the man tells him he has committed the unpardonable sin.

I do not know that I can do a greater kindness to a young man who comes to me after he has consulted these men, and is nearly scared to death, than to tell him that a nocturnal emission is only a natural process which every healthy man has to go through. I tell him to let it alone, and nature will take care of it. I tell him if he admits masturbation that he has not committed the unpardonable sin, but that he must not do it again. I tell him to eat judiciously, sleep well, and not to go with the girls too much if it excites him, and not to think of them in a special way except to love them for the precious creatures they are. We can instruct young men, and women can instruct young girls in many ways, and I believe, with the doctor, that this idea carried out will prevent a large amount of this trouble.

DR. ARCHIBALD MACLAREN (St. Paul): I was very much interested in this paper, although the acoustics of the room bothered me just as they did Dr. Moore. The result was I did not catch the entire drift of Dr. Peddicord's remarks.

I think there is a great deal of false modesty in regard to our position regarding the genital functions. I

think there is a whole lot of rot that has been taught by both medical men and clergy. I do not know whether I want to instruct my children and tell them all I know. I do not know how I would feel about that, because I have not gotten to that time. I have seen one very serious objection, and that is the sort of teaching that tells the young man he ought to go to the prostitutes occasionally on account of his health. There is no question that that is the worst advice that can be given to any young man. I have seen most horrible results of that sort of teaching. There is no question in my mind but that masturbation is a great deal better for the boy than going to the prostitutes. I do not know, but I am really inclined to think, that most young male animals masturbate, and I do not think it does them any harm in a general way. I think any sane boy soon comes to recognize the fact that masturbation is a nasty habit, and soon stops it. The boy that continues it is an idiot, always was, and will continue so.

The medical advice that a man ought to get satisfaction will certainly lead to trouble in the future. That is certainly the worst kind of medical advice that can be given, and I take this opportunity to throw a brick at it.

DR. A. M. WANG (Minneapolis): I understand the prevention of prostatic hypertrophy is under discussion, but it has drifted into a great many other directions. The trend of opinion is that sexual hygiene should be recommended for the prevention of hypertrophy. In the prevention we have first to deal with the natural conditions in which the patient has been educated and brought up and the ideals that may have been inculcated in him. There are so many questions involved that we cannot all agree, because our ideals in regard to right and wrong differ. Even as physicians we differ upon the question as to what is best for the young man. He is nine-tenths animal and one-tenth spiritual. There are two evils which confront a young man about which he should define his position and which fight against them: prostitution and masturbation. It seems sometimes from a thoroughly medical point of view that we should say of the two evils, choose the lesser one; but the advice to go to a prostitute, as a young man is supposed to do in some quarters, sometimes entails a lifetime of misery. We know that at the first departure from virtue the young man often contracts disorders that follow him through his entire life. The other evil viz., masturbation, is also wrong and unnatural. The great remedy to inculcate in our young is to advocate early marriage. As soon as the animal reaches its maturity it seeks its mate, and we should insist on early marriage as the solution of this problem.

DR. C. H. HUNTER (Minneapolis): This point of the continence of the race certainly has a great bearing on this subject. Not only are continence and temperance in most matters, but particularly is sexual continence of the utmost importance for the individual and for the race. We get a basis for continence in religion, in religious feeling, and as Christians in following the founder of this particular form of religion; or we must get it in ethics from a physiological foundation. One basis of conduct can well appeal to one sort of mind, the religious, and the other will appeal to the more rational mind whose conduct is based, as much as the conditions of life will permit, on reason. All these injunctions to continence came first in regular form in the decalogue to the Hebrew race. The Hebrew was the first man of the races around the Mediterranean sea to practice continence, and they practiced it with the help they got from religious sanction. They bred straight, just as we breed our best breeds of horses and cattle. Follow it up and you will find that the underlying principle was the practice of continence. In all the development of the race, just as in the breeding of

your cattle, they put forward the better breed. We have that race with us still. They are still here on the face of the earth, the only race left pure and straight from that time to this. The Hebrew has preserved in his race those qualities that have kept him on the face of the earth. Nobody likes to live with him, but he has kept his race intact, while the genial Greek is gone. He must then follow those injunctions that came to that race first. We have got to breed straight.

Monogamy is the salvation of the race, not only its salvation, but hope of its continued evolution. Thus in the development of the mind of man, it is in this physiological basis that as ethical, rational men we find the sanction of continence. Whatever we may say about it, however we may feel about the rigors of asceticism, in continence you get the strength and the vigor; you get the spiritual power of one man's mind over another, as you get it in no other way. An appeal to history will uphold this position. He who practices the most continence will breed the straightest, will breed the most vigor of body first, and then of mind, because we get expression of mind only through the body, and thus we have the strongest, the rational and the religious, sanction for the practice of continence.

DR. L. M. ROBERTS (Little Falls): I am struck with amazement that a body of medical men and teachers, in medical schools at that, should relegate the teaching of sexual matters and sexual hygiene to the over-ripe age of eighteen years. Surely every medical man or woman present knows that masturbation in its nastiest forms was freely practiced by very young children far oftener than after the age of 18, at which time it is proposed to "teach" young men and women sexual hygiene. I am convinced that if anything practical is to be accomplished it must be long before this period. Begin at earliest infancy to teach the child he must not play with, or allow another to play with, his organs. Year by year things can be judiciously added both by word of mouth and proper books that will make the child wise

as to his own organic functions, with a wisdom that will prevent immoral associates imposing on him and inculcating loathsome vices. Your boy and girl at the age of five is not too young to note dogs and domestic animals following their sexual impulses, and naturally they are going to ask someone why? Now, are you going to leave it to some street loafer or stable hand to give them the always sought information, or are you going to do your plain duty, and forestall such sources of often wrong and generally grossly immoral information? Are you going to wait until they are eighteen or twenty? If so, are you going to teach or unteach? I take it that the present system of eliminating all that has to do with the sexual organs, both anatomically and physiologically, in our public schools is a great error. Far better that we view the matter sanely, and employ competent men and women to travel from city to city and give at least elementary instruction to the sexes separately on these matters.

How much longer are we going to persist in confounding ignorance with innocence? One may be innocent and both wise and pure. How long, on the other hand, is it ordinarily possible for one to remain ignorant, and either wise or pure? It is essentially paradoxical.

DR. PEDDICORD (Essayist): The discussion seems to have developed largely along the line of ethics and morals. There was no intent to instruct in this field, only in so far as it might have a direct bearing on the subject under discussion.

It was hoped something might be said as to whether prostatic hypertrophy is caused by chronic prostatitis. If so, can chronic prostatitis be cured? or can it be prevented by an avoidance of those unphysiologic conditions which produce prolonged congestion or irritation? It may be an adherent prepuce or continued sexual excitement, or what is probably a large link in the chain of causes, gonorrhea.

TREATMENT OF EMPYEMA OF THE ANTRUM OF HIGHMORE*

By E. H. PARKER, M. D.

MINNEAPOLIS

Influenza during the past winter seems to have been the cause of a large amount of nasal-sinus disease, as well as of middle-ear and mastoid complications. Acute antrum suppuration has been so frequent as to give unusual opportunity for the study of this disease. The majority of cases, I think it is safe to say, pass through the acute stage, either without medical attention or, if with it, without a definite diagnosis having been made until a chronic condition is established, and in this form are usually seen by the specialist. It is interesting, therefore, to see more of the acute cases, and compare notes and experiences.

Infection of the antrum is caused, in many

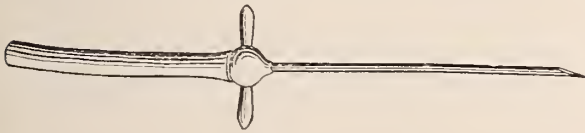
cases, by an abscessed dead tooth, but in this country, at least, where dentistry is of a high standard, I believe it is safe to say that the majority of cases are of nasal origin and associated with some of the acute infectious diseases, more particularly influenza.

In acute antrum suppuration the most typical complaint is as follows: influenza or bad cold for seven to ten days, followed by a unilateral, creamy nasal discharge, usually non-odorous. Severe, one-sided pain, usually, though not necessarily, localized in the cheek, is sometimes more marked around the eye, especially the inner angle and below the eye, although, in some cases, the pain is chiefly frontal or even in the temporal region. Pressure tenderness is of some, but uncertain, value

* Read before the Hennepin County Medical Society, March 18, 1907.

in diagnosis, and is most commonly located in the canine fossa or under the eye.

Trans-illumination gives valuable information only when we find a bright crescent of light in the infra-orbital region on one side, and a contrasting opacity on the other. Unfortunately, the light-test may be negative, showing dark under both eyes, due to anatomical conditions, such as greater density or thickness of the bone, or in case of double antrum suppuration. Trans-illumination may also be perfectly clear under both eyes, and yet suppuration be present on one or both sides, as evidenced by two of my acute cases the past season. Diagnosis is made only after puncture with the diagnostic puncture-needle, and a



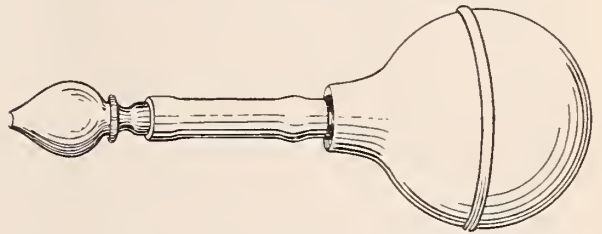
No. 1. Antrum Puncture-Needle.

purulent discharge washed from the antrum. Puncture is made with cocaine anesthesia under the middle third of the inferior turbinate. Through a rubber tube, attached to the needle, the antrum is irrigated by means of a good strong piston-syringe, the return flow coming through the natural opening of the antrum into the nose.

The treatment of acute antrum suppuration is very simple, and a cure may be expected, in most cases, in a week or ten days without operation. First, a competent dentist should determine whether any dead tooth is causing or complicating the antrum disease, in which case the tooth, together with any necrosed bone present, should be removed. Unless a fistulous opening already exists through the root canal, I prefer not to make an alveolar opening into the antrum, on account of the danger of re-infection from the mouth. Barring some unusual complication, the suppuration rapidly ceases after one or more irrigations through the diagnostic puncture-needle and a few drops of 25 per cent argyrol left in the antrum. Irrigation is repeated every two or three days if the discharge continues purulent. In the meantime the patient is instructed to use the nasal suction-pump every two hours, evacuating the antrum, by the aid of posture, as thoroughly as possible each time. The nasal suction method is an offshoot of the Bier's hyperemia treatment. It was first used by Sonderman with the idea of producing artificial congestion of the nasal mucous membrane in atrophic rhinitis. Later it was found of much value in removing pus in sinus suppuration,

supplementing the usual operative measures required in these cases.

Nasal suction was accomplished by Sonderman by an air-tight rubber nose-mask, to which was attached a piece of rubber tubing and a Politzer bag. Suction was produced by the expansion of the compressed bag, the patient meanwhile holding the soft palate up against the back of the throat as if to utter the letter "K." A simpler pump, as suggested by Brawley, can be made from a strong English breast-pump bulb to which is attached a short piece of rubber tubing with a glass nebulizer



No. 2. Author's Nasal Suction-Pump.

nasal-tip, the tip being placed in one nostril, the other nostril closed, and the compressed bulb allowed to expand. The amount of negative pressure produced in the nasal cavity, and the quantity of pus withdrawn from a sinus with the pump are really surprising.

Nasal suction has also been practiced by the use of the electric-motor one-way ear-pump in place of the rubber bulb. I doubt, however, whether this is more effective than the simpler apparatus. The latter has the advantage of being a home treatment, and can be used by the patient at frequent and regular intervals.

The nasal-suction method I have found of much value, both as an aid to diagnosis and in the treatment of acute, as well as some chronic, sinus disease. By the aid of suction, pus is quickly brought to view, and we determine, first, the presence of a suppurating sinus, and, second, by its location in the nose and from the amount, we can learn something, at least as to the probable sinus involved.

In acute antrum suppuration the patient is taught to use suction at home every two or three hours, bending the head to the opposite side and emptying the cavity as thoroughly as possible of pus. This takes from five to ten minutes, insures freedom from pain, gives fairly good drainage, lessens the number of office irrigations, and materially hastens a cure.

In chronic antrum suppuration operative measures should aim, first, at the most perfect drainage; second, an opening giving access to the interior of the cavity for curettement of diseased tissues. The old alveolar route has little to recommend itself. The patient is required to wear constantly a hard-rubber plug

to prevent closure of the opening. Drainage is present only upon periodical removal of the plug, with irrigation. Some of the foul secretion gets into the mouth. Altogether, drainage is poor, and access to the interior of the antrum is still poorer. Many cases have been cured by this operation, but the average length of time required, according to Grunwald, is about fifteen months. Many cases fail to recover, however, and the patient continues to wear the alveolar plug for years, or has to undergo another more radical operation.

The canine-fossa route with a small opening, is subject to the same objections as the alveolar route. The Caldwell-Luc operation, consisting of the free removal of the facial wall of the antrum, together with the whole of the nasal wall, is the ideal radical operation when conditions demand. Fortunately, the majority of cases do not require such radical measures. The operation now accepted by the most advanced rhinologists is the removal, through the nose, of the whole or the greater part of the nasal wall of the antrum, together with a good share of the inferior turbinate. The advantages of this operation are many: the operation can be performed easily under cocaine anesthesia, as the wall is usually very thin; there is little loss of blood; little danger of injury to any important structure; you get perfect drainage, which means almost immediate freedom from odor and the greater part of the discharge. A complete cure usually results in a few weeks.

The ventilation of the cavity, with constant contact with the air, probably has much to do with the rapid cure.

The discharge finds immediate exit into the nose, and is removed in a natural way by blowing the nose. A permanent opening is established that has no tendency to close, if made large enough. It is not always necessary even to curette the cavity, as I have repeatedly seen very much thickened mucous membrane in the antrum return rapidly to normal after this operation. Curettement is fairly well carried out with flexible curettes. The patient follows his usual occupation with little, if any, loss of time.

The after-treatment is a luxury to the patient, as well as to the physician, compared with daily washing through an alveolar or canine-fossa opening; in fact, very little after-treatment is required which cannot be carried out by the patient. This operation is quickly performed, with little discomfort to the patient. The anterior two-thirds of the inferior turbinate is first removed, and then, by means of a specially adapted drill and an electric motor, a moderate-sized opening is made down to the

floor of the antrum, when the biting forceps rapidly completes the operation. The Sonnenkalb's antrum-punch for biting forward and the Freer modification of the Grunwald forcep for biting upward and backward, I have found best adapted for completing the removal of the nasal wall.

Too small an opening, as earlier recommended, in the inferior meatus, is likely to lead to disappointment, as the opening has a tendency to close, in which case the drainage becomes imperfect and the opening may have to be enlarged. I have experienced this difficulty in some of my operations. There may be difficulty in some cases in making a properly large opening, namely, when the antrum is small or the floor of the antrum is much higher than the floor of the nose.

To summarize: In acute antrum suppuration, the ideal treatment is by puncture and irrigation through the diagnostic puncture-needle, supplemented by nasal suction.

Chronic antrum suppuration is most satisfactorily and conservatively treated by the intranasal operation, and when, for any reason, this fails, we do the Caldwell-Luc operation, one-half of which is already done by removal of the nasal wall. If it were possible to foresee the difficulties in a given case, we might select the more radical operation first. The fact is, that often the most unfavorably appearing case yields most easily to treatment. On the other hand, the seemingly simple case may be complicated with sufficient bone necrosis, or malignant or other disease, to require, eventually, the most radical operation.

Appended is a synopsis of acute cases treated by me during the past winter by nasal puncture, together with some chronic cases, over a longer period, treated by the intranasal operation:

SYNOPSIS

	Number of Cases.
Acute antrum cases since Nov. 1, 1906.....	15
Sinus affected	
Right antrum only	10
Left antrum only	3
Both antra	2
Etiology	
Infectious coryza or influenza.....	11
Abscessed tooth	4
Discharge (usually thick mucopurulent)	
Non-odorous	13
Slightly odorous	2
Pain (severe in most cases)	
Confined to the cheek.....	6
In cheek and under eye.....	1
Under eye only	2
Frontal one side	2
Frontal, both sides.....	1
Frontal and under eye.....	1
Under eye and temple	1
Whole side of head	1

Trans-illumination		Result,	No. of Cases
Positive (a contrasting light and opacity).....	7	Cured in 3 to 10 days.....	12
Negative (either light or dark both sides)....	8	Cured in 3 weeks.....	2
(a) Dark under both eyes, one antrum af- fected	4	Not yet entirely cured.....	1
(b) Dark under both eyes, both antra af- fected	2	The suction-pump was used at home every two or three hours in most cases.	
(c) Light under both eyes, one antrum, af- fected	1	INTRANASAL OPERATIONS (CHRONIC CASES)	
(d) Light under both eyes, both antra af- fected	1	No. of cases reported	13
Transillumination usually returned to normal		Sinus Affected	No. of Cases
Trans-illumination usually returned to normal		Right antrum	3
		Left antrum	9
		Both antra	1
		Duration of Disease,	
		Shortest (months)	2
		Longest (years)	15
		Average (years)	5½
		Etiology	
		Abcessed tooth	6
		Infectious coryza or influenza.....	2
		Not known	5
		Pain	
		As a rule not complained of.	
		Discharge	
		Thin and more or less odorous in all cases.	
		Complications,	No. of Cases
		Ethmoid disease	3
		Frontal disease	1
		Polypi or polypoid degeneration.....	4
		Hypertrophied turbinates	2
		Asthma	1
		Neurasthenia	3
		Result	
		Cure in two or three months.....	10
		Poor result (too small opening and neglected after-treatment)	1
		Still under treatment (recent case).....	2
		Anesthesia	No. of Cases
		Cocaine	12
		General	1

	Number of Punctures Required.
Case, 3 days after onset of disease.....	3
Case, 10 days after onset of disease.....	3
Case, 4 days after onset of disease.....	2
Case, 1 day after onset of disease.....	1
Case, 4 days after onset of disease..... (r)	2
(Both antra affected)..... (l)	1
Case, 3 weeks after onset of disease.....	11
Case, 3 days after onset of disease.....	1
Case, 4 days after onset of disease.....	5
Case, 3 weeks after onset of disease.....	3
Case, 2 days after onset of disease.....	1
Case, 7 days after onset of disease..... (r)	6
(Both antra affected)..... (l)	4
Case, 3 days after onset of disease.....	5
Case, 8 days after onset of disease.....	3
Case, 1 day after onset of disease.....	2
Case, 1 day after onset of disease.....	13

This case has had atrophic rhinitis with ethmoid disease for 15 years. The acute suppuration ceased after a few punctures, but at the present time a little plug of mucus is still washed from the antrum daily.

ETHER AND CHLOROFORM ANESTHESIA*

By D. E. ARNOLD, M. D.

ABERDEEN, S. D.

Three achievements stand out in the records of the last century which, for direct mitigation of human ills and indirect influence upon the advancement of medical science, have no parallel in the history of medicine. These three are anesthesia, vaccination, and antiseptis. The term *anesthesia* was given by Dr. Oliver Wendell Holmes to denominate that lethargic state which had, from time immemorial, been at once the hope and the despair of medical men; and when this anesthesia had been successfully induced, Dr. Holmes wrote as follows: "Nature herself is working out the primeval curse which doomed the tenderest of her creatures to the sharpest of her trials; but the fierce extremity of suffering has been steeped in the waters of forgetfulness, and the deepest furrow in the knotted brow of agony has been smoothed forever."

*Read before the South Dakota State Medical Association, May 29 and 30, 1907.

The belief in, and the search after, some agent by which pain might be annihilated is as old as medicine itself; yes, as old as the human race. Forever since the Great Physician "caused a deep sleep to fall upon Adam, and he slept; and he took one of his ribs, and closed up the flesh instead thereof," other physicians have searched for this death of pain, this medical will-of-the-wisp.

The fact that, though the ancients employed various devices to annul pain, the eighteenth century was not marked by any advance in this direction, notwithstanding its eminent medical men, has been a subject of comment. The atmosphere of mysticism, charms, incantations, and charlatanism that surrounded the early history of pain-destroying agents, tended to discredit the whole matter, and, in part at least, explains why the eminent men of the profession at that time

did not study this subject more closely. Then, too, we must take into consideration the religious ideas based on the primeval curse which were prevalent at that time. This idea of the primeval curse, by the way, is not yet extinct. Only a few years ago I had three women (foreigners) refuse an anesthetic in confinement because of the edict, "In sorrow shalt thou bring forth children."

The works of the earliest medical writers contain references to methods used in their times for the lessening or prevention of pain through the use of drugs, by internal administration, by inhalation, and by local application. Mandragora seems to have been the earliest and most commonly used drug by the ancients, but cannabis indica, opium, belladonna, hyoscyamus, hemlock, and others are mentioned by the earliest Greek writers.

With the introduction into Europe, by the Moslems, of the process of distillation we find the more common employment of volatile preparations for the purpose of relieving pain. The principle of the inhalation of volatile substances is very ancient. Aphrodite threw herself on a bed of lettuce in order to mitigate her grief for the death of Adonis.

Although sulphuric ether was discovered by Valerius Cordus in the year 1540, hydrogen by Cavendish in 1766, nitrogen by Rutherford in 1772, oxygen and nitrous oxide by Priestly in 1774 or 1776, it was not until the close of the eighteenth century that these gases began to be employed in any manner likely to lead up to the discovery of their anesthetic properties. In the early part of the past century the effects of nitrous-oxide gas was known to many, and the gas was inhaled for diversion by the students of the University of Pennsylvania.

The incidents leading up to the discovery of the anesthetic properties of nitrous-oxide gas, ether, and chloroform, and the introduction of these agents into surgical practice, form one of the most interesting chapters of medical history. In 1780 Mr. Humphry Davy discovered, by personal experiment, that nitrous-oxide gas would relieve toothache and other pains, and he suggested its use for the production of anesthesia. He described its effects as "uneasiness being swallowed up for a few moments by pleasure." Although he does not appear to have carried its administration far enough to produce unconsciousness, he recognized its possibilities in this direction, and recommended its employment in slight surgical operations, or, as he expressed it, "surgical operations in which no great effusion of blood takes place."

In 1818 an article by Faraday, in the English Quarterly Journal of Science and Arts, pointed

out that ether when inhaled had effects similar to nitrous-oxide gas.

Pereira's work on *materia medica*, which was published in 1839, described the anesthetic properties of ether when inhaled, and in 1842 Dr. Crawford W. Long employed ether while removing a tumor. Later he repeated its use, and demonstrated its effects to his brother physicians. Dr. Long is regarded by many, especially in the Southern states, as the discoverer of anesthesia. A statue of Dr. Long is now being placed in a hall in Washington, D. C., reserved for the statues for two distinguished men from each state. This statue is a memorial from the physicians of the state of Georgia.

In December, 1844, Dr. Horace Wells, a dentist of Hartford, Conn., after observing the effects of laughing-gas, experimented upon himself, and submitted to the extraction of an aching tooth while under its influence. He successfully repeated the experiment upon others and was very enthusiastic over its use. In company with Dr. Morton, a former pupil of his, he attempted a public demonstration in Boston in 1844. The attempt failed, according to Wells, because of the premature withdrawal of the gas. The crowd of doctors and students present were very frank and unrestrained, as we usually are, in their expressions of disapproval, and the disappointment and humiliation resulting from this failure were directly responsible for Wells' death. He died by his own hand in 1848.

Dr. W. T. G. Morton, who was associated with Wells in this failure, abandoned the gas and tried chloric ether with unsuccessful results and later, at the suggestion of his preceptor, Dr. Charles Jackson, a physician of Boston, he experimented with sulphuric ether, beginning his experiments upon lower animals. His success in this direction encouraged him to make a personal experiment, and he successfully anesthetized himself in September, 1846. The same day he administered it to a patient and extracted a tooth, and to his own delight and the astonishment of the patient the operation was absolutely painless.

Morton then proceeded to obtain an opportunity for the public demonstration of the practicability of anesthesia. This was furnished him in a surgical amphitheater of the Massachusetts General Hospital on October 16, 1846, in the same place where the unsuccessful demonstration by Wells had taken place two years previously. The surgeon in charge was Dr. John C. Warren, to whom great credit is due for placing the opportunity in Morton's hands in spite of the previous failure in this direction. The operation was the removal of a vascular tumor from the side of the neck. The Harvard medical class was present, and also a number of prominent

physicians and surgeons. This trial was a complete success, and this was the first public exhibition of anesthesia.

The formal announcement to the medical profession of this discovery was made by Dr. H. J. Bigelow in a paper read before the Academy of Arts and Sciences on November 3d, and before the Boston Society of Medical Improvement on November 9th, and published in the Boston Medical and Surgical Journal of November 18, 1846.

The fame of this wonderful new agent and its discoverer spread rapidly, and then came Dr. Jackson, jealous of the fame of Morton and anxious to participate in the benefits of the discovery, with a claim to the prior rights of discovery, basing his claim on the assertion that he had been aware of the power of ether since 1842. He had suggested the drug to Morton and, undoubtedly, had advised him as to its nature and the best methods of administration, but beyond this his claim seems groundless.

And here Morton made the mistake of his life—an attempt to patent the agent under the name of *Letheon*, and to keep its nature secret. As he was not a graduate of medicine he was not technically bound to observe that rule of medical ethics, which, from the beginning of medicine, has forbidden the adoption of such a course in relation to matters which are a benefit to common humanity; but his failure to observe this rule forfeited him the esteem and sympathy of the medical profession, which would have been of incalculable value in the controversy which followed.

The dispute between Morton and Jackson was bitter, and continued long after the death of Jackson, in an asylum. It was finally dignified by an investigation by a congressional committee, whose report substantiated the claims of Morton. But Morton's attempted secrecy was unavailing. The world at large knew that "*letheon*" was simply ether. Dr. Bigelow became aware of its nature and spread the news in England. The public disregarded the patent proceedings; indeed, the government representatives in the army and navy ignored the effort to secure patent papers, and an attempt to secure \$100,000 to Morton from the government failed, largely through the antagonism of Jackson. A like grant of \$50,000 from England failed from the same cause, while a French prize was equally divided between the two.

Morton's life was clouded by a feeling of resentment against the public whose position he mistook for ingratitude. Such honors as he did receive did not, in his opinion, equal the bickerings which continued over the rights of discovery, and his death, in 1868, was the direct result of these controversies.

To-day Morton is generally regarded, and his memory is honored, as the true discoverer of the practicability of ether as an anesthetic.

Upon a monument erected by the citizens of Boston over the grave of Morton is the following inscription: "William T. G. Morton, Inventor and revealer of anesthetic inhalation. By whom pain in surgery was averted and annulled. Before whom in all time surgery was agony; since whom science has control of pain."

The discovery of anesthesia, while a blessing to the world, was a tragedy to its authors and their families. Wells committed suicide, Jackson died in an insane asylum, and Morton worried himself to the grave.

No medical discovery was ever more readily adopted than the use of anesthesia. It was used in England only two months after its public demonstration in Boston.

The success of ether as an anesthetic excited a large amount of experimentation with many other substances in the hope of discovering a better agent for this purpose, and on November 10, 1847, Dr. James Y. Simpson read a paper on chloroform before the Medical Chirurgical Society of Edinburgh, and on the 15th published a pamphlet on the subject reporting about fifty successful administrations. By many Dr. Simpson is regarded as the discoverer of chloroform, but through the efforts of the Chicago Medical Society it has been definitely established that this honor belongs to Samuel Guthrie.

Chloroform, which at first was regarded as an anesthetic without danger, became almost the sole anesthetic agent in use in Great Britain and on the Continent, while, in our own country, ether was more commonly used. Occasional deaths under chloroform and the seeming inexplicable cause of these fatalities, brought about a realization of its danger. Heated controversies arose as to the relative merits and demerits of chloroform and ether. It has been proven beyond reasonable doubt that, all things considered, chloroform is more dangerous than ether. German statistics from 1890 to 1900 show deaths to be as follows: from chloroform, 1 in 2,000; from ether, 1 in 7,000. Ziegler's statistics give 1 death from chloroform in 2,000; from ether 1 in 26,000. Foys' statistics, based on about 90,000 chloroformizations and over 300,000 etherizations, give a mortality from chloroform of 1 in 4,000; from ether, 1 in 15,000. The combined statistics of Gurtle of Berlin and Juillard of Geneva, in which chloroform was given 700,000 and ether 350,000 times, give from chloroform 1 death in 3,000, and from ether, 1 in 15,000. But in spite of these statistics, chloroform still has its advocates, most likely because of the ease of giving it, and from their unfamiliarity with ether.

A half century's experience with anesthetics has brought the conviction that improper selection of the anesthetic, and lack of skill and judgment in the anesthetist, constitute a large share of the dangers from either anesthetic. It is a fact to be deplored that very few physicians are skillful anesthetists. As the success and progress of surgery depend, in a great measure, upon the safety of the anesthesia, and as anesthetics are being used in all the different departments of medicine, it is almost imperative that all physicians should know how to skillfully administer chloroform and ether. When we know that every anesthetic has its danger we should realize the need of skill in its administration. In the majority of our surgical operations there is more danger from an unskilled anesthetist than from an unskilled surgeon.

Until the last few years it was commonly thought that chloroform was safer for children than ether, but if ether is given with an abundance of air it is safer and will be taken much better than is generally supposed.

To the patient the period of greatest danger from ether is after the age of 50 years. Chronic alcoholics are invariably difficult to anesthetize. They require a large amount of the anesthetic, the stage of excitement is prolonged, and the muscular and reflex movements are marked and persistent. If chloroform is used with these subjects great care must be exercised during the stage of muscular rigidity and excitement.

In giving either chloroform or ether we must remember to give them with air. When I first began giving ether we gave it with a cone and tried to see how little air we could let the patient get; to-day we give ether with plenty of air, and chloroform with more air. The cone is now seldom used. Almost all authorities agree that both chloroform and ether should be given by the drop method. I am partial to the Mayo inhaler, and find that we have very little vomiting following after using the drop method with plenty of air.

One authority very recently advocated the administration of oxygen following the anesthetic for the prevention of vomiting. I have not tried this, as it is expensive and cumbersome, and during the last year we have had very little vomiting to contend with.

Except in emergency cases, before beginning an anesthetic we should ascertain the condition of the heart, lungs, and kidneys of the patient. Knowing his physical condition, we shall know which anesthetic to give him, and shall be on the alert for possible accidents, and be better prepared to meet them.

See that the patient has a hot bath and that his bowels are emptied the evening before operation. In abdominal operations, be sure the pa-

tient's bladder is emptied before beginning the anesthetic. Of course, anesthetics should be given on an empty stomach, but if the patient has gone too long—over twelve hours—without food, he is almost sure to vomit bile before he is completely anesthetized.

Before beginning an anesthetic gain the patient's confidence, tell him that he will be all right, and re-assure him as to the outcome of the operation. Anxiety and fear are heart-depressants, and you all know that the element of fright can easily lead to heart-failure.

The patient's eyes should always be covered with gauze or a towel to prevent the irritation of the conjunctiva that follows its exposure to the fumes of chloroform or ether.

The anesthetist must never relax his vigilance from the beginning to the end of the anesthetic. He must attend to the anesthetic and to that alone.

All the guides, as the condition of the pupils, the nature of the respiration, the force and frequency of the pulse, the color of the lips, paleness or lividity of the skin, must be noticed.

Proficiency in the art of giving an anesthetic—and it is an art—is acquired only by study, observation, and the actual work.

DISCUSSION

DR. S. A. BROWN (Sioux Falls): I do not wish to add anything to the admirable paper that has just been read, but I think that the subject of anesthetics should never be allowed to come up in the Medical Society of South Dakota without its being called upon to sound a note of warning in order to put its members on guard against the practice of using chloroform in the dentist's chair. The statistics referred to by the doctor bring up the proof only to the present day in the same line with other compilers who have worked in years gone by. The German statisticians, by classifying the particular operation in each case, brought out the fact that it is in the dentist's chair that most of the plainly unnecessary victims of chloroform are found.

I agree with the reader of the paper that chloroform should not be used for any kind of operation unless there is good and sufficient reason for believing that ether would be more apt to kill than chloroform. Ether is more dangerous for old people and young children than it is for young adults, but it is not so dangerous for any class of patients, whatever their age, as chloroform. The greatest excess of chloroform mortality is among the healthy and the robust. I think that in all cases ether ought to be used unless there is some contraindication about the case which is plainly evident.

DR. H. M. FREEBURG (Watertown): A large percentage of the deaths which occur during the administration of chloroform take place during the first two minutes of anesthesia. If care is taken to give the chloroform very slowly at first, gradually increasing the amount given to complete anesthesia, much of the danger from chloroform will be avoided.

When the heart's action becomes depressed or irregular, if a change from chloroform to ether be made, its action and also respiration will be stimulated, thereby avoiding dangerous symptoms.

Many doctors give an anesthetic with a pillow under

the patient's head. As a rule I believe the patient will breathe easier and do better if the pillow is removed and the head tipped well back.

It is well known that a large proportion of deaths from chloroform take place in the dentist's chair. There is a reason for this; the anesthetic is often given with the patient in a semisitting position, and in this position chloroform is much more depressing to the circulation. I believe we physicians ought to insist on the horizontal position when we are giving chloroform for a dental extraction.

In administering chloroform to patients who are not in good condition for an anesthetic, it is far safer to take the precaution of giving 1-30 grain of strychnine hypodermically.

When ether is to be given to a nervous patient, especially for operation about the throat or stomach, there will be less disturbance from gagging if a small dose of morphine be first administered.

DR. O. R. WRIGHT (Huron): I wish to call attention to the fact that chloroform is not altogether

without its dangers in obstetric practice. I have seen some very dangerous symptoms arise during its administration at that time. It is very carelessly given at this time, and some of the sudden deaths during confinement are due to this cause.

DR. ARNOLD (Essayist): I wish to object very seriously to the use of morphine before anesthesia. If you give enough to do any good you will destroy the reflexes and leave yourself without these very important signs.

One reason why I think we have a high rate of mortality in dental work is due to the fact that the patient is not anesthetized to the surgical degree. The patient does not feel the pain, but the heart receives the shock, and a fatal termination is the result.

Speaking of what to do when you get dangerous symptoms: When you have syncope from chloroform you will do very little, for there is very little you can do, but dangerous symptoms from ether are very readily relieved.

EARLY OPERATION IN APPENDICITIS, WITH DEMONSTRATION OF SPECIMENS*

By J. T. ASBURY, M. D.

WABASHA, MINN.

Case 1.—The first appendix I present this afternoon, is one acutely inflamed, removed from Mrs. G. L., December 15, 1906.

The case presented the following history and conditions: Mrs. G. L. was 57 years old, German, married several years, reared a large family, hard-worker, and was never sick in her life till eleven months before, when she had quite a severe attack of appendicitis, and was quite sick, vomiting a great deal, with right rigidity with dullness to the outer side of McBurney's point. She recovered from the attack, being sick about three weeks.

For the present illness I was called early in the morning of December 15th. She said she was perfectly well the day before, and was over to her daughter's till ten in the evening. She was taken violently ill about two in the morning. She had vomited, had violent pain, her pulse was 88, her temperature was 101°, the abdomen was very tender over the appendicular region, she expressed herself as being much sicker than in her previous attack, and appeared to be a very sick woman.

I saw her about three hours later. She was no better; in fact she seemed worse. I advised an early operation, but it was refused. I had her keep on the hot-water bottle, and gave her morphine for the pain, as I had done in the morning. I saw her about noon. The tender-

ness had increased, the temperature was 103°, and she was worse. I saw her about three in the afternoon, when she consented to be operated upon. She was at once removed to the hospital, and immediately prepared for the operation, which was done under chloroform, the principles of aseptic surgery being observed.

The gridiron operation was done, and as soon as the abdominal cavity was opened, pus welled out. This was carefully mopped away, and large gauze strips put in the abdomen to wall off the appendicular region.

The appendix was readily found. It was perforated near the base, and was removed, stump inverted. The pelvis was examined and found to contain a great deal of pus, which was mopped out. The intestines were red and injected, due to a beginning general peritonitis. This condition was so general that I was afraid to trust one drain, so I made another opening on the left side, putting a large handkerchief-drain in each opening. I did not put any stitches in either wound.

The operation took about thirty minutes. The patient left the operating-table in good condition, the pulse being about 80.

The following morning the temperature was 99°, the pulse 76, and they remained so till the fourth day, when they both ran up. Pulse was 120, and the temperature went to 103°. Following a dose of castor oil, the bowels moved well; green in color, and offensive in smell. Tempera-

*Read before the Southern Medical Association, August 1, 1907.

ture and pulse came down the next day.

A great deal of pus was discharged from the wounds. It was very offensive, and for a few days the dressings had to be changed twice a day.

The patient made a good recovery and was discharged from the hospital on January 17, 1907.

She has a post-operative hernia on the right side.

Case 2.—The second appendix is one acutely inflamed and was removed from J. K. on December 26, 1906.

The following history and symptoms were observed: J. K., 30 years old, German, married about two years, used to a good deal of exposure. Had the common diseases of childhood, and two years previously he had a severe run of smallpox. One month before his present illness he had a light attack of appendicitis, which simulated typhoid fever so closely that it took me four or five days to decide which he had.

On December 26th he was chopping cordwood six miles from home and was taken with violent abdominal pain about noon, with a desire to defecate. His bowels moved a little, but it did not help the pain. He was brought home, and I saw him at seven in the evening. I diagnosed appendicitis and advised immediate operation, which was consented to. He was at once removed to the hospital, and the operation performed about eight in the evening, being about eight hours after the beginning of the attack. The abdomen was opened by the gridiron method. The intestines were walled off with gauze, and the appendix removed. It presented an early stage of inflammation, with an old ulcer, which had nearly perforated. The gauze was removed, the wound closed with through-and-through and layer sutures. The patient made an uninterrupted recovery and was discharged from the hospital on January 9, 1907. He has had no trouble since the operation.

Case 3.—The third case is one removed from A. D. on January 5, 1907.

On January 5th he came to my office to consult me for what he called the grip, giving the following history and conditions: He was 18 years old, German, single, common laborer, of medium build, and had never been sick much in his life, with the exception that for several years he had pain in the pit of the stomach.

He was taken sick on January 4th. He walked into my office, and looked quite sick. Conjunctivæ were yellow, and he complained of a great deal of pain in the epigastrium, and over the left side; tenderness over the right side, quite diffuse. There was no tenderness on left side or in the epigastrium; pulse was 80; temperature 99°.

A diagnosis of appendicitis was made, and he was taken to the hospital to be ready for an operation should subsequent symptoms warrant.

One hour after he was in the hospital the nurse called me up and told me he had a chill and that his temperature was 102° and pulse 112. After the re-action had set in from the chill I prepared for immediate operation; his pulse was 120, and temperature 103°. He had a cold. There were no abnormal findings in the lungs.

I removed a very highly inflamed appendix, which was adherent to the peritoneum over the psoas muscle. A large amount of fibrin was present, the wound was partly closed, and a small drain of gauze left. The gauze was removed the second day, and the wound, with a previously inserted suture, was closed.

He had a very distressing cough, the sputum was green, and he spit up some blood. I was very much alarmed for fear he would develop pneumonia, but he did not. His fever hung around 101 for three days, and then gradually dropped to normal, the pulse was from 80 to 90.

He was discharged from the hospital on the tenth day.

Case 4.—The next appendix that I will show you is one removed from Miss H. D. on January 30, 1907. As to its condition I will let you be the judge, but it looks like gangrene to me.

Miss H. D. aged 18, German and French, rather a delicate child, high-school student, had the diseases of children during childhood, menstruation began at age of 14.

In April, 1906, I was called to see her when she had an attack of appendicitis. She was quite sick, and I feared for her for two or three days. Improvement set in, and she recovered, being sick about three weeks. I advised an operation, but the parents were afraid because they lost a child from a mastoid operation. After this attack she had days in which she would have to go to bed and use the hot-water bottle to allay the pain.

She had another attack in October, 1906, which was not as hard as the previous one, and lasted about one week.

The present attack began on January 30, 1907, with severe abdominal pain. The abdomen was distended, and there was vomiting. I was called about two hours after the attack began, and advised an operation at once, which was consented to. I removed her to the hospital, and four hours after the attack began I had removed the appendix. She had no fever before the operation, and very little tenderness, but severe pain.

The appendix was in an unusual position. At its base it came out as usual from the peritoneum of the cecum and again entered under it, and

was curved back behind the cecum and under the peritoneum. The cecum was distended with gas, rendering its coats tense and, in that way, lessening or preventing the blood-supply to the appendix, and, as you see, producing an appendix early in the stage of gangrene. A small drain was inserted in the wound and removed on the second day. She made an uninterrupted recovery and left the hospital on the fourteenth day.

Case 5.—This appendix is one removed from Mrs. T. L. on February 14, 1907.

Mrs. T. L., aged 26 years, married, has three children, had one forceps delivery, strongly built, Irish, hard worker, family history good. She had been very well up to four years ago, when she had violent abdominal pain. I was called to see her, and when I arrived the pain had left her, and she had no tenderness anywhere over the abdomen. Later I saw her, and she had a slight degree of tenderness over McBurney's point. I did not see her again for about four years when she came in to consult me, giving the following history: Ever since the first attack she has had, at intervals, severe pain in the pit of her stomach, so severe that it would lay her up for a week at the time and a physician would have to be called. These spells would come on at times every few days, and again it would be weeks before they would bother her.

On February 10, 1907, she had a temperature of 99°, pulse 72, a great deal of pain in the epigastrium, marked tenderness to the left of McBurney's point. I diagnosed acute appendicitis and advised an operation, which was consented to, and the patient was taken to the hospital. She was put to bed with a hot-water bottle on the abdomen, and kept in bed for two days. The symptoms remained about the same. I then decided to operate, which I did on February 14th, removing a badly inflamed appendix, as you see.

The patient made a rapid recovery and left the hospital on the fourteenth day following the operation.

Case 6.—This appendix is one removed from H. M. on March 27, 1907.

H. M., aged 32 years, German, medium build, single, hard worker, never been troubled much with sickness, and never to his knowledge did he have appendicitis.

He was taken sick on March 27, 1907, with pain in the abdomen and vomiting. He did not get any better, and I was called to see him about twenty-four hours after the attack began. I examined him very carefully and found his condition as follows: Temperature 101°, pulse 86, complained of pain in the epigastrium, and soreness over McBurney's point. The tenderness was quite marked, and he looked quite sick. I diagnosed the case appendicitis, and advised an im-

mediate operation, which was consented to. He was at once taken to the hospital, and the appendix was removed. The usual aseptic conditions were observed, and on opening the abdomen I made a little tension on the cecum in an upward direction, and out rolled the appendix bathed in green lymph and fibrine.

The appendix was removed, the bowels were gently mopped with gauze where they were stained from the pus, they were then walled off, and the pelvis was examined. There was no pus in the pelvis. The incision was closed with through-and-through and layer sutures, and room left for a small drain down to the base of the appendix and among the bowels where the inflamed appendix had lain. The wound drained some pus on the second day, and a smaller drain replaced the other one. The next day a little pus was present. The gauze drain was removed, and a few strands of catgut were inserted. There was no pus to speak of the next day. The next day the wound closed. His temperature was 100° the day after the operation, and it reached normal on the fourth day. The pulse was never above 80 after the operation.

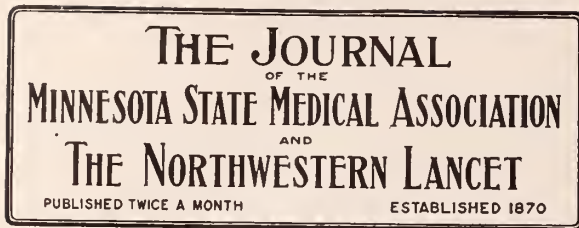
He made a good recovery and left the hospital on April 13th, and has since had no trouble of any kind.

HOSPITAL EFFICIENCY, HOSPITAL FINANCES, AND THE ECONOMICS OF ADMINISTRATION

S. S. Goldwater of New York calls attention to the prospects of betterment of hospital management due to co-operation among organized medical charities, hospital extension work, the approach toward uniform methods of accounting, the attempt to establish a proper balance between municipalities and voluntary hospitals, the recognition of the social needs of the hospital attendant, and the establishment of a chair of Hospital Economics.—*Medical Record*, October 26, 1907.

RUPTURE OF THE LIVER; OPERATION; DEATH

H. A. Haubold, of New York, gives the history of a case of rupture of the liver caused by falling on the corner of a pile of lumber. There were no evidences of shock, nor any classic picture of progressive internal hemorrhage, yet this existed. Rate and character of the pulse did not show it, nor was there air-hunger or restlessness. Death resulted in spite of attempts at surgical repair of the injury.—*Medical Record*, October 26, 1907.



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NOVEMBER 15, 1907

SMALLPOX AGAIN

An epidemic of smallpox in Minnesota is imminent, particularly in the Twin Cities. In the neighborhood of one school in St. Paul twenty cases have been sent to the quarantine hospital, and vaccination has been very general. A few days ago the child of a Christian Science family in a high-school in Minneapolis was discovered with an eruption, and the history revealed the fact that another child had been in bed one week with smallpox, unrecognized, of course. Doubtless many epidemics of communicable diseases are carried about schools and other public places. In the Christian Science family quoted above a party had been given when one of the children had smallpox. Fortunately, the epidemic is mild in character, but may become more active and virulent at any time.

The time is coming when the people will be given an opportunity to express themselves when the State Board of Health regulation of epidemics of smallpox is in force. There will be no quarantine after January 1, 1908.

If persons infected are permitted to go about without the possibility of forced detention hanging over their heads, those who are exposed to a communicable disease and who are willing to be vaccinated, will soon be able to satisfy them-

selves which is better—to be vaccinated and be fairly or practically immune or to go unvaccinated and contract the disease with all its consequences. For a time there will be much discussion and fault-finding, but an adjustment will come, and the objectors to vaccination will be out of fashion and unprotected.

The State Board of Health will soon publish the important announcement of free vaccine. Negotiations are pending for the purchase of vaccine matter from an eastern state until the laboratory of the State Board has provided means for its own vaccine production.

Antitoxin has been furnished by the State Board of Health for a year, and now the supply of free vaccine will add another important feature to the work of protecting the public health.

MINNESOTA PASTEUR INSTITUTE

The Pasteur Institute on the University Campus, in the laboratory building of the Board of Health, has been in operation for three months, and about forty-five cases of rabies have been treated. All but two cases have originated in Minnesota. The two cases from Wisconsin have been received at the usual rates, one hundred dollars for each case. Requests have come from veterinarians as to the treatment of animals, and it was decided that horses and dogs should be charged as individuals, namely, one hundred dollars each.

The work so far has been wholly satisfactory: no accidents or deaths have occurred during or after the treatment.

It is very evident from the experience of the laboratory that more than a complete justification of the state appropriation of \$5,000 will be made long before the end of the first year. The cases have come from various parts of the state, the majority from the Twin Cities.

In the beginning virus was obtained from another institute in New York, but since September 27th the virus has been prepared at the home laboratory.

The treatment is given by Dr. McDaniel, who is in charge every afternoon, the mornings being required to prepare material, inoculate animals, and make diagnoses.

It is expected that the physicians of Minnesota will avail themselves of the opportunity to study patients and methods at the Institute.

The laboratories of the state should be known to the physicians and in this way should educate the people as to ways and means of protecting public health. If the physicians would take an interest in such matters the people would understand sanitary methods and, in turn, would educate the legislators up to a point where they could

begin to appreciate that the protection of the health of the public is really beneficial, and is not to add to the doctor's purse. Perhaps in time the doctor would have more influence in the passage of bills that are primarily intended to do good to many and harm to none.

EXAMINATION OF SCHOOL CHILDREN

Following the startling findings of defects in school children in New York it has been suggested that a similar plan be inaugurated in the children of the public schools in Minneapolis. A conference with the Board of Education resulted favorably, and the experiment will soon be carried out in this city. Some one, as usual, objected with the ridiculous statement that the whole thing was a scheme on the part of the physicians in order to increase their waning business. Fortunately, the objector overstepped the bounds of reasonable argument and helped the other side.

It is expected that the examinations will be conducted in a scientific manner, that the work will be systematized and thorough, but not objectionable in any way. The principal defects to be looked for are errors of refraction, imperfect hearing, throat and nose disorders, and nervous complications. This, of course, covers a wide field and will lead to much investigation into structural defects, deformities about the head, arrested brain growth, and unsuspected minor ailments that retard the child in school study. No harm can come from such an investigation, and a great deal of good will be accomplished by calling the attention of the parents to removable deficiencies and the correction of errors and habits incident to child life. Teachers are more or less prepared to help in the investigation and will be able to offer valuable suggestions to the examiners.

Some time ago it was reported in the daily press that a number of children had been operated upon with a wonderful improvement in their mentality, and the impression got out that it was necessary to remove a part of the skull in order that the brain might grow. This is an absurd idea that was founded upon an exceptional case and grossly magnified by a vivid imagination in a newspaper reporter. In all probability the majority of defects will be found to be due to eye-strain, adenoids, and the crowding of educational methods in children who are mentally incapable of withstanding the strain. Unquestionably, a considerable number of children who are backward will be those who are ill-nourished and underfed from various causes.

It is expected that the examiners will be physicians, men and women, who will offer their services. There are a large number of com-

petent and able physicians who would willingly do this work without compensation from a purely scientific point of view. There need be no fear that any unprofessional work will be attempted, and no cult need feel alarm or distrust. It will be educational to the parent and helpful to the child.

REPORTS OF SOCIETIES

STEARNS-BENTON COUNTY SOCIETY

The Stearns-Benton County Society held an interesting meeting at St. Cloud, October 17. Two very interesting papers were read: "Chronic Articular Rheumatism," by Dr. O. H. Wolner, and "Gout: Theories of Causes, Clinical Varieties, Etc.," by Dr. August Kuhlmann. The papers were thoroughly discussed. The next meeting will be held Nov. 21, at St. Cloud.

J. C. BOEHM, M. D., Secretary.

CAMP RELEASE DISTRICT SOCIETY

Camp Release Society held its regular meeting at Clarkfield, Oct. 24, 1907, the vice-president, Dr. E. M. Clay, presiding.

Dr. R. C. Adams, of Bird Island, was elected to membership, and Doctors L. N. Bergh, of Montevideo; M. M. Hauge, of Clarkfield; and E. C. Gaines, of Buffalo Lake, made application for membership.

The Secretary reported that correspondence showed that nearly all of the county and district societies of the state had adopted the five-dollar rate for life-insurance examinations, and that the members generally adhered to this rate. The only exception to this rate was for fraternal or lodge insurance. Neither the A. M. A., the State Association, nor any of the local societies of the state had made any lower rate than five dollars for assessment companies. The statements made by life-insurance agents that they found no difficulty in getting examinations made for less than the established fee and that the A. M. A., the State Association, and many local societies had made a special rate for assessment insurance companies were not true.

The following resolution was adopted: Resolved, that the fee for all life-insurance examinations shall be five dollars except for fraternal or lodge insurance.

A committee was appointed to revise the fee-bill.

The following papers were read:

"Pneumonia," by Dr. M. E. Bushey, of Arlington; "Hyoscin, Morphin, and Cactin; The New Anesthetic," by Dr. W. P. Lee, of Fairfax;

"Bowel Trouble, with Report of Cases," by Dr. E. M. Clay, of Renville; and "Antiseptics," by Prof. H. C. Carel, of Minneapolis.

The next meeting will be held at Granite Falls, January 23, 1908.

R. D. ZIMBECK, M. D., Secretary.

RAMSEY COUNTY SOCIETY

The Ramsey County Society issues a very interesting monthly bulletin of four large note-size pages. It gives the program of the succeeding meeting and notes of interest to the Society.

The following notes are copied from the October issue, and we think this manner of introducing new members is to be heartily commended. The information is worth knowing; it is but justice to the new men; and it must encourage other men to join the Society that thus treats its new members.

At the last meeting of the Executive Committee the following new members were elected:

Dr. Ernest H. Bohland, Medical Department of the Hamline University, 1903. For two years Dr. Bohland practiced at Hanover, Minn., before locating in St. Paul. His office is at 499 W. Seventh St.

Dr. Harold J. Rothschild, University of Minnesota, 1905. Following his graduation, he took a post-graduate course at the Rush Medical College, Chicago, and has been an interne at St. Mary's Hospital, Superior, Wis., and at St. Joseph's Hospital, St. Paul. He has an office in the Baltimore block.

Dr. George I. McKelway, University of Pennsylvania, 1889. For twelve years Dr. McKelway practiced his profession in Philadelphia, and for six years in Flushing, N. Y. The doctor makes a specialty of surgery and gynecology. Office, Endicott Arcade.

Dr. Mary P. Hopkins, University of Minnesota, 1901. Interne at Asbury Hospital, Minneapolis; assistant physician and gynecologist, St. Peter State Hospital, 1901-1907. Present location, White Bear.

Dr. Charles D. Freeman, University of Minnesota, 1904. Served the following year as interne at Luther Hospital, St. Paul, and then went abroad, where he has spent two years doing post-graduate work in Berlin, Vienna, Paris, and London. Specialty, dermatology-urology. Office, Pittsburgh building.

HENNEPIN COUNTY SOCIETY

A mid-monthly meeting of the Hennepin County Society was held on October 21st, being called to order by the president, Dr. J. E. Moore. About 50 members were in attendance.

The application of Dr. Arch A. Wilcox for reinstatement, and of Dr. E. L. Meyer for membership were read and referred to the Censors.

Dr. J. G. Cross reported a case of nephritis with pulmonary edema. Dr. E. S. Strout reporting the ocular findings.

Dr. E. S. Geist addressed the Society on the subject of "Tendon Transplantation." Dr. Reed, Dr. W. A. Jones, and Dr. J. E. Moore participated in the discussion which followed, Dr. Geist closing.

Dr. J. E. Moore read a paper entitled "Local Applications in Surgery," which was discussed by Drs. A. W. Abbott, J. W. Little, H. B. Sweetser, J. A. Watson, J. F. Corbett, A. E. Benjamin, E. J. Brown, A. T. Mann, C. E. Henry, and C. N. Spratt, the discussion being closed by Dr. Moore.

F. A. KNIGHTS, M. D., Secretary pro tem.

NEWS ITEMS

Dr. A. E. Voges has moved from St. Michael to Hanover.

Dr. C. G. Bacon, of Sauk Rapids, has moved to Marshall.

Dr. B. J. Branton has moved from Atwater to Willmar.

Dr. R. E. Peterson, of Harmony, has located at Ostrander.

Dr. Edward Huttner, of Sioux City, Iowa, has located at Wall, S. D.

Dr. A. H. Brown, of Pipestone, died the latter part of last month.

Dr. Evan Hyslin, of Kindred, N. D., is doing post-graduate work in Chicago.

Dr. N. B. Gearheart has moved from Albee, S. D., to Philip, in the same state.

Dr. Henry L. Ulrich, of Minneapolis, is in Europe studying physical diagnosis.

Dr. Justus Matthews, of Rochester, is attending clinics in Philadelphia and New York.

Dr. E. R. Thompson, of Harmony, has sold his residence property and will locate elsewhere.

Dr. J. P. O'Conner, of Delano, has gone to California for the winter, and will seek a new location.

Dr. Jens Ohnstad, of McIntosh, has located in Minneapolis, and has offices at 1854 Central Ave. N. E.

Dr. J. P. Schneider, State University, '06, has become the partner of Dr. J. J. Langford, of Green Isle.

Dr. W. D. Hammond has sold his practice at Isanti, and will probably locate in Washington or Oregon.

Dr. Q. A. Lowe, who has practiced at Wabasha and Crookston for many years, has moved to California to live.

Dr. R. T. Gilmore, of Bemidji, who has been doing post-graduate work in Chicago, has returned to his practice.

Dr. George D. Crosette, of Motley, has moved to Staples and formed a partnership with Dr. F. H. Knickerbocker, of that place.

Dr. S. J. Chaleen, a graduate of the State University, who has been in Bethesda Hospital, St. Paul, has located at Hutchinson.

Dr. S. D. Carney, of Parkston, S. D., was married last month to Miss Ruth Skinner. Dr. Carney has located in Armour, S. D.

Dr. Arnold Schwyzer, of St. Paul, has been appointed Swiss consul for the Northwest to succeed the late Dr. Gottfried Stamm.

Dr. R. R. Rome, of Minneapolis, has gone to Europe for a visit to the hospitals. He will spend several months there in special work.

Dr. A. B. Lund, State University, '06, has located at Leeds, N. D., and formed a partnership with John G. Arneberg, of that place.

Dr. William T. Flynn, Hamline, '05, and Dr. McGurran, of Larimore, N. D., have formed a partnership and will practice at Devils Lake, N. D.

The \$60,000 hospital building at Rugby, N. D., is so far advanced that the interior work can be done this winter, and the hospital opened early in the spring.

Willmar is to have a new hospital conducted by Drs. Peterson and Branton, who have leased a large residence, which will be converted into a hospital building.

Dr. Ulric Valiquet, a graduate of Laval, has purchased the practice of Dr. J. H. Higgins, of Rockford. Dr. Higgins will locate in Minneapolis.

Asbury Hospital, Minneapolis, is making quite extensive improvements to the hospital building. Two large operating-rooms and twelve single rooms, some with baths, for patients are being added.

Dr. E. G. Sasse (Hamline, '05), of Lidgerwood, N. D., has purchased an interest in the hospital at Bridger, Montana, and will be associated with Dr. A. J. Movius (State University, '04).

Dr. L. N. Bergh, State University, '06, was married last month to Miss G. Severdrup, of Minneapolis. Dr. Bergh has charge of the practice of Dr. Lima, of Montevideo, who is in Europe.

It is reported that Chippewa Falls, Wis., is to have one of the finest sanitariums in the West. The building will cost a quarter of a million dollars. Dr. Clarke Gapen, of Madison, Wis., is at the head of the enterprise.

Arrangements have been made to give the Board of Managers, composed of women, of the Stillwater hospital ample support and the women will remain in charge. The hospital was established 27 years ago by the late Dr. Perry H. Millard.

The Methodist Church of North Dakota, at its annual conference meeting last month, appointed a committee to consider the building of a 100-room hospital at Minot, N. D. The people of Minot promise the assistance needed to carry out the plan.

The physicians arrested in Iowa for forming a trust, because they agreed upon a fee-bill, were discharged by the district court, the judge holding that medical attendance and surgical skill are not commodities within the scope of the Iowa antitrust law.

At the annual meeting of the Mower County Society, held last month, the following officers were elected: President, Dr. W. A. Frazer, Lyle; vice-president, Dr. O. H. Hegge, Austin; secretary, Dr. R. S. Mitchell, Grand Meadow; treasurer, Dr. E. W. Rodgers, Austin.

The first examination of nurses under the new law establishing a board of examiners, will be held at the St. Paul City and County Hospital, Dec. 6th, at 9 a. m. Information concerning the examination may be had by writing Helen H. Wadsworth, St. Luke's Hospital, St. Paul.

The interior of St. Barnabas Hospital, Minneapolis, is undergoing complete reconstruction under plans of architect Lowell Lamoreaux. The old operating-room will be made over, and a new operating-room, double the size of the old one, will be added.

Dr. O. Y. Warren, one of Montana's leading physicians, died last month at Butte at the age of 47. Dr. Warren went to Montana in 1891, and until last spring was superintendent of the State Insane Hospital at Warm Springs. Last year he was elected president of the State Medical Association.

At the annual meeting of the Wright County Society, held last month at Buffalo, the following were elected officers for the coming year: President, Dr. A. M. Ridgway, Annandale; vice-president, Dr. C. L. Larson, Buffalo; secretary, Dr. John T. Catlin, Buffalo; treasurer, Dr. A. L. Hill, Monticello.

The following physicians passed the North Dakota State Board examination last month: J. R. Riggs, Herdsfield; W. C. McMurtry, Walford; J. L. Kitchen, Sentinel Butte; W. M. Quinn, Zealand; W. C. Salbreiter, Bismarck; H. J. R. Ludsay, Upham; L. S. Williams, Grand Forks; W. T. Clark, Grand Forks; A. B. Lund, York; J. L. Livingston, W. J. Whyte, Ray. The following received certificates by reciprocity: G. F. Rudiger, Grand Forks; F. Underwood, Sarles; J. C. Alexander, Tower City; E. E. Barker, Turtle Lake.

PHYSICIANS LICENSED AT THE OCTOBER, 1907, EXAMINATION TO PRACTICE IN MINNESOTA

UPON EXAMINATION

Altnow, Hugo O., Michigan, 1907.
 Annis, Homer B., Rush, 1907.
 Deuel, Avery G., Nebraska Col. of Med., 1907.
 Giffin, Herbert Z., Johns Hopkins, 1904.
 Hicks, Frank B., Rush, 1899.
 Holm, Marius L., Northwestern, 1907.
 Jamieson, Earl, Hahnemann, Chicago, 1905.
 Jones, Elmer M., Minnesota, 1907.
 Larsen, Oscar O., Minnesota, 1907.
 Monahan, Robert H., Hamline, 1906.
 Robb, John O., Toronto, 1907.
 Rosenthal, Ig. P., Minnesota, 1907.
 Scherer, Carl A., Michigan, 1907.
 Sherper, Myron, P. & S., U. of Ill., 1907.
 Stevenson, Andrew W., U. of Ill., 1906.
 Ten Broeck, Louis L., Rush, 1907.
 Zalesky, Rose E., P. & S., Chicago, 1907.

BY RECIPROCITY

Friesleben, Wm., Med. Col. of Ohio, 1906.
 Ingbert, Chas. E., Rush, 1904.
 Marcle, Walter J., Dartmouth Med. Col., 1902
 Randolph, Wilson, Detroit Col. of Med., 1906.

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PHYSICIANS' ATTENTION.—Drug-stores on easy payments, etc. Drug-store positions, United States or Canada. F. V. Kniest, Omaha, Nebr.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF SEPTEMBER, 1907

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF SEPTEMBER, 1907

STATE INSTITUTIONS.

	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Fergus Falls, Hospital for Insane.....	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rochester, Hospital for Insane.....	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1
St. Peter, Hospital for Insane.....	4	1	..	1	..	..	..	..	..	..	..	..	..	..	..
Anoka, Asylum.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hastings, Asylum.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Deaf.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Blind.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Feeble Minded.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Owatonna, School for Dependents.....	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stillwater, State Prison.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Cloud, State Reformatory.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Red Wing, State Training School.....	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Minneapolis, Soldiers' Home.....	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals.....	19	1	..	1	..	..	..	..	..	..	..	..	..	..	1

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF SEPTEMBER, 1907

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Albert Lea.....	4,500	5,657	2														
Anoka.....	3,769	4,053	1														
Austin.....	5,474	6,489	1														
Barnesville.....	1,326	1,566	1														
Bemidji.....	2,183	3,800	1														
Blue Earth.....	2,900	2,364	1														
Brainerd.....	7,524	8,131	11	1													
Chaska.....	2,165	2,085	1														
Chatfield.....	1,426	1,300	1														
Cloquet.....	3,074	6,117	1														
Crookston.....	5,359	6,794	6														
Detroit.....	2,060	2,149	6	1													
Duluth.....	52,968	64,942	94	11	1	3	1	6				1	1	3	13		3
E. Grand Forks.....	2,077	2,489	5	1													
Ely.....	3,712	4,045	6	1													
Eveleth.....	2,752	5,332	1					1									
Faribault.....	7,868	8,279	4														
Fairmont.....	3,440	2,955	0														
Fergus Falls.....	6,072	6,692	5														
Granite Falls.....	1,214	1,340	0														
Hastings.....	3,811	3,810	0														
Hutchinson.....	2,495	2,489	0														
Jordan.....	1,270	1,311	0														
Lake City.....	2,744	2,877	2	1													
Litchfield.....	2,280	2,415	5														
Little Falls.....	5,774	5,856	5														
Luverne.....	2,223	2,272	7														
Le Sueur.....	1,937	1,842	2														
Madison.....	1,336	1,604	3														
Mankato.....	10,559	10,996	8	2													
Marshall.....	2,088	2,243	0														
Melrose.....	1,768	2,151	0														
Minneapolis.....	202,718	261,974	207	18	2	15	1	3	1			4		4	27	1	11
Montgomery.....	979	1,281	0														
Montevideo.....	2,146	2,595	1														
Moorhead.....	3,730	4,794	1														
Morris.....	1,934	2,003	5			1		1									
New Prague.....	1,223	1,419	1														
New Ulm.....	5,403	5,720	6														
Northfield.....	3,210	3,438	3														
Ortonville.....	1,247	1,612	0														
Owatonna.....	5,561	5,651	4														
Pipestone.....	2,536	2,885	0														
Red Lake.....	1,885	1,797	0														
Red Wing.....	7,525	8,149	6	1			1										
Redwood Falls.....	1,661	1,806	0														
Renville.....	1,075	1,229	0														
Rochester.....	6,843	7,233	15	1	1												
Rushford.....	1,100	1,133	0														
St. Charles.....	1,304	1,238	2														
St. Cloud.....	8,663	9,422	12	1	1												
St. James.....	2,607	2,320	1														
St. Paul.....	163,632	197,323	184	12	5	4	1	5	1			2		2	22	1	9
St. Peter.....	4,302	4,514	4			1											
Sauk Centre.....	2,220	2,463	2														
Shakopee.....	2,046	2,069	0														
Sleepy Eye.....	2,046	2,312	2	1													
So. St. Paul.....	2,322	3,458	3														
Stillwater.....	12,318	12,435	11		1												
Thief River Falls.....	1,819	3,502	4														
Tower.....	1,366	1,340	0														
Tracy.....	1,911	2,015	0														
Virginia.....	2,962	6,056	0														
Wabasha.....	2,528	2,619	0														
Warren.....	1,276	1,640	0														
Waseca.....	3,103	2,838	1														
Waterville.....	1,260	1,383	1	1													
West St. Paul.....	1,830	2,100	0														
Willmar.....	3,409	4,040	6	2													
Windom.....	1,944	1,884	1														
Winona.....	19,714	20,334	21		1												
Worthington.....	2,386	2,276	0														

*No report received. Health officer not doing his duty

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF SEPTEMBER, 1907

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Puerperal Septicemia	Cancer
Ada.....	1,253	1,515	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adrian.....	1,258	1,184	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Aitkin.....	1,719	1,896	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Akeley.....		1,636	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Alexandria.....	2,681	3,051	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Appleton.....	1,184	1,321	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Belle Plaine.....	1,121	1,301	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Benson.....	1,525	1,766	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Breckenridge.....	1,282	1,850	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Buffalo.....	1,040	1,124	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Caledonia.....	1,175	1,405	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Canby.....	1,100	1,505	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cannon Falls.....	1,239	1,460	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cass Lake.....	546	1,062	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chisholm.....		4,231	6	1	1	2	1	1	1	1	1	1	1	1	1	1	1
Dawson.....	962	1,056	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Delano.....	967	1,023	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fosston.....	864	1,000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Frazee.....	1,000	1,146	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Glencoe.....	1,780	1,805	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Glenwood.....	1,116	1,718	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Graceville.....	856	1,032	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Grand Rapids.....	1,428	2,055	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hallock.....	805	1,014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hibbing.....	2,481	6,566	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Jackson.....	1,756	1,776	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Janesville.....	1,254	1,205	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kasson.....	1,112	1,049	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kenyon.....	1,202	1,252	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lake Crystal.....	1,215	1,221	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lanesboro.....	1,102	1,041	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Long Prairie.....	1,385	1,256	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Madelia.....	1,272	1,290	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Milaca.....	1,204	1,319	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mountain Lake.....	959	1,063	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
North Mankato.....	939	1,129	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
North St. Paul.....	1,116	1,400	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Olivia.....	970	1,019	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Osakis.....	917	1,056	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Park Rapids.....	1,313	1,719	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pelican Rapids.....	1,033	1,095	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Perham.....	1,182	1,366	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pine City.....	993	1,092	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Plainview.....	1,038	1,140	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Preston.....	1,278	1,320	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Princeton.....	1,319	1,704	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rush City.....	987	1,041	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rushford.....	1,062	1,040	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
St. Louis Park.....	1,325	1,491	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sandstone.....	1,189	1,589	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sauk Rapids.....	1,391	1,552	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Scanlon.....		1,122	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
South Stillwater.....	1,422	1,572	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Springfield.....	1,511	1,546	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Spring Valley.....	1,770	1,573	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Staples.....	1,504	2,163	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Two Harbors.....	3,278	4,402	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wadena.....	1,520	1,868	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wells.....	2,017	1,814	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
West Minneapolis.....	2,250	2,530	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wheaton.....	1,132	1,346	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
White Bear Lake.....	1,288	1,724	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Winnebago City.....	1,816	1,553	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Winthrop.....	813	1,031	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Zumbrota.....	1,119	1,129	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
State Institutions.....			19	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Other parts of State.....	1,012,328	1,085,886	488	37	3	7	3	10	1	2	...	3	2	7	38	3	22
Total for State.....	1,751,395	1,979,658	1268	105	15	36	7	27	3	2	...	10	3	24	128	4	59

Still births and premature births, 48 (not included in above totals).

*No report received Health officer not doing his duty

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PRESENT-DAY SURGERY IN ENGLAND AND SCOTLAND FROM NOTES MADE ON A RECENT SHORT VISIT

BY WILLIAM J. MAYO, M. D.

ROCHESTER, MINNESOTA

There is an erroneous impression in America that surgery in Great Britain is not modern, and that, in order to see good technic, England should be passed for the Continent. To the student who speaks French and German, France and especially Germany offer great attractions; but that they do not contain all that is worth seeing in surgery, is readily demonstrable by a short visit to the British Isles.

Lister met the fate of all prophets and failed to get a hearing in England, but he was appreciated in Germany and became established there years before his theories were taken up in the land of his birth. To-day antiseptic and aseptic methods are the rule in Great Britain, and it is observed in the breach not more often than occurs at home or in Continental Europe.

While it must be admitted that many of the surgeons in the great hospitals of England are exceedingly conservative, yet it must also be acknowledged that they are very sound, and one does not often see them doing operations based upon indefinite symptoms. To a certain extent the misapprehension as to the character of English surgery has been founded upon "a few days in London" by some American students, rather than upon real investigation as to the general conditions, particularly in the smaller cities. London does not represent English surgery in the way that Paris represents the surgery of France. Men

who occupy the chief positions in the London hospitals, have gained them, to a considerable extent, through long years of patient waiting and working in subordinate positions. By the time they become leaders, their work is more or less crystalized; and, unfortunately, in many hospitals there is no machinery, such as an age or time limit, whereby these men may be retired. Under present conditions it is nearly impossible for a man from the Provinces, no matter how great his ability, to obtain a position on the staff of any of the London hospitals; and, as a matter of fact, a man can seldom change from the staff of one hospital to that of another, which is quite contrary to the best German traditions. This does not mean that the general average of surgical work in London is poor, but it does mean that some of the most modern surgery is to be seen in the provincial towns.

HOSPITALS

All of the hospitals are supported by voluntary contributions. Very few of them have any endowment, and those that do have, like St. Bartholomew's, find the same wholly inadequate. This being the case, practically all of the work done in the hospitals is for charity, and each hospital must make a big showing in order to stimulate contributions. There is a marked tendency in this condition to do great injustice to the physi-

cians who practice in the neighborhood. By the misappropriation of funds committed to the trust care of hospital directors for the purpose of taking care of the worthy poor, charity is in many instances diverted from its proper channels to the giving of free service to people who can afford to pay—a condition of hospital abuse with which we are quite familiar at home. The whole scheme of English hospitals makes no provision for the honest man in moderate circumstances. He must either swallow his pride and accept misplaced charity, or take refuge in a nursing-home where the charges are high and the service exceedingly poor. The common people who have made England what she is to-day, do not receive the care and attention which is given to the tramp or the barroom loafer.

The size of the British hospitals varies from about 200 to 850 beds. They are fairly clean, and the food is good. The nursing seems satisfactory. Each hospital has a three-year course of training for the nurses. Generally speaking, however, I do not think that the English hospital service is quite up to the best American standards, but as nearly all of our hospitals take pay patients it is hardly fair to make direct comparison, unless it be with some of the American hospitals that are entirely devoted to charity work.

The operating-theaters are nearly all modern and well equipped. About one-half of the surgeons wear rubber gloves and require their chief assistants to do the same. Nearly all operators wear caps, but very few of them have any protection over their faces while talking. I was glad to see in many of the hospitals that the nurses were compelled to wear a head-covering in the operating-room instead of allowing their hair (some of it their own) to fly about their heads in the barbaric manner prescribed by modern style. It is certainly incongruous that an operating-room nurse should be covered by a gown, rubber gloves, and sleeves, and yet allow her hair to fly in every direction like shaking a hair duster over things she is supposed to protect.

Throughout Great Britain chloroform is used almost exclusively as an anesthetic. Ether is very seldom given, except by the few men whose work I shall speak of more in detail later.

Silk is rather generally used as a ligature and suture material, only a small number of the more advanced surgeons using catgut, while the old-fashioned sea-sponge is still the favorite. For hand cleaning, lysol solution is used extensively. Iodoform is used more freely in wounds than it is in America. It is kept in a solution of bichloride, 1-1000, and is scooped out of this and used with enough of the solution to make a paste.

Many of the operating-rooms are quite sloppy

and wet, so much so that the surgeons wear short rubber boots on account of the excessive use of irrigation, etc. Practically all of the more advanced surgeons whom I saw, however, operate in most modern fashion and conduct their operating-theaters in every respect as they are conducted here.

MEDICAL EDUCATION

Most of the large hospitals conduct medical schools, although only a few of them are connected with universities, and can give the title of M. D. The licensing bodies are, fortunately, independent and require only the licentiate degree to permit the practice of medicine. This has thrown all of the examinations for university degrees into the hands of a few institutions, such as Oxford, Cambridge, and Edinburgh; however, most of the provincial cities have recently organized universities of their own, which grant titles, such as that of M. D. (a purely university degree). A surgeon, however, cannot expect a hospital appointment if he is not a Fellow of the Royal College of Surgeons.

Comparing the general course for the students with that of our best schools, it can be said that the English student is taught the fundamental branches, if any thing, more thoroughly than they are taught here. Their students will be found to be first class anatomists. Their courses in gross pathology are also most excellent—far better than the average course with us. The English student knows what he sees with his own eyes, while the American student is educationally tied to his microscope. I believe that in this respect the English student is better taught, even though the American laboratory courses are technically more extensive.

LIVERPOOL

Liverpool has three hospitals: the Royal Infirmary, 280 beds; the Northern, 220 beds; the Southern, 208 beds. The surgical service in the hospitals is divided into three divisions of from 40 to 50 beds each. The chief surgeon of each division has continuous service, getting all the patients admitted on two days in each week. Each surgeon has one regular operating day a week.

There are a number of very excellent surgeons in Liverpool. I had the pleasure of seeing Mr. Grimsdale of the Royal Infirmary, Mr. R. W. Murray of the Northern, and Mr. Robert Jones of the Southern, the latter a nephew and most worthy successor of the late Mr. Thomas, known the world over as the originator of the Thomas hip-and-knee splint and the Thomas wrench, used so much by orthopedic surgeons. Mr. Jones' clinic is most extraordinary, and is very largely the surgery of deformities. Just as Lawson Tait

carried sound surgery into the abdomen, and Mr. Victor Horsely into the cranial cavity, so has Mr. Jones carried sound surgical principles into orthopedic practice, and rapid cures are the result in a large number of cases which were formerly treated for months and years by orthopedic apparatus. This does not mean that Mr. Jones has discarded these measures. He is most careful in the after-treatment, and uses mechanical contrivances for their proper purposes, as an adjunct to surgery, not in place of it. In tuberculous joints he is especially conservative.

Mr. Jones' working organization is very good, indeed. His offices occupy a large house, and include a staff of about a dozen people. Here he sees every morning from 30 to 40 patients. The general examinations, the taking of histories, etc., are done by assistants in one of the numerous small rooms. Mr. Jones examines the patient, comes to a decision very promptly, and makes the recommendation as to treatment; the details of arrangements for operation, etc., being carried out by another person. A great many patients are operated upon during the morning in the office, and leave the building in the course of the day. One morning while visiting him in the office, I saw him reduce two dislocations of the shoulder, set some fractures, and operate on several cases of clubfoot in babies. In the afternoon, five days in the week, he operates on private patients in nursing-homes (a small hospital conducted by private enterprise, usually by several nurses). Sunday is his free clinic day, when fully 200 or 300 patients are examined free of charge. Many of them are sent into the Southern Hospital for his public clinic, which is given, at the present time, once a week. He operates on that day upon from 15 to 30 cases, a great many of whom are not kept in the hospital. In osteotomy, clubfoot, and similar operations the patients are allowed to go home after recovering from the anesthetic. All operations are done under ether anesthesia. The asepsis is most painstaking and thorough. He is expeditious, yet neglects not the smallest detail, and his wonderful experience enables him to do wizard-like operations with a precision that is startling. So unassuming and modest is the man that he is, I believe, entirely unaware of his great ability. One thing that interested me very much was his treatment of fracture of the elbow. He told the mother of the patient (a little girl) that he would give the child, who had a comminuted fracture, a useful arm, but told her the elbow might be flattened out and unpleasant in appearance; or, if she desired, he could give the child a normal-appearing elbow with some loss of function. The mother wisely chose the function with deformity, and he laughingly said, "they usually do." He puts these elbows up in flexion, and continues the manipulation until it can be done with ease. This

pushes the fragments out of the road and restores permanently the hinge-function of this important joint. He does not use passive motion until it can be done without pain, but at the various dressings he varies the angle.

All splints are as cheap as possible, being made from malleable-iron sheeting. Instead of adhesive straps, he uses a pitch plaster, which is very cheap and is made on the premises. A pitch paper is also home-manufactured at a very small expense.

I must place Mr. Robert Jones as one of the greatest surgeons it has been my good fortune to meet. He belongs to that type of specialist who has been, and continues to be, a general surgeon, but has been forced by the large amount of work to become a specialist, and so Mr. Jones is working almost exclusively along orthopedic lines.

EDINBURGH

The present-day conditions in Edinburgh for surgical study are extremely good, and maintain the high tradition of the old University. There are 1400 medical students, and the group of medical buildings is quite imposing. The Royal Infirmary, containing 850 beds, is separated from the medical buildings by only a narrow street, and its patients are used for clinical instruction. The service is divided into six divisions, each surgeon having under his immediate control wards containing from 40 to 50 patients. There is a separate gynecological service.

It is unfortunate that there is no age limit for the retirement of division heads, since the present system tends to their retention after their usefulness has departed, and the consequent delay in the advancement of the younger men. This will be remedied in the future by the surgeons themselves, who have by unanimous agreement changed their positions from life-appointment to retirement at the age of 65 years.

Mr. Annandale is the professor of clinical surgery. His achievements maintain for him a high place in the esteem of his countrymen. Professor Chiene is very active, delivering an average of five lectures a week and holding two clinics. From the standpoint of the student, as a lecturer on surgery he is probably not excelled by any man in Great Britain. He is of imposing presence and is a most inspiring speaker. To the active surgeon, however, the younger men will appeal more strongly.

Mr. Stiles has the largest amount of surgical work of any man in Edinburgh. He is the chief surgeon of the Children's Hospital and Chalmers Hospital, and has a private infirmary, giving him, in all, not far from 100 beds. He is 45 years old, an indefatigable worker of the American

type, and is well known to us as the translator of Kocher's "Operative Surgery." He is rapid, exceedingly accurate, and has no frills of any kind. I was much impressed with his thorough knowledge of pathology and his unwavering devotion to the welfare of patients. He is a man so honest he would not know how to "play to the gallery." I attended a number of his clinics and found them most attractive and profitable. He called my attention to some very interesting cases. One was congenital hydronephrosis in a child, forming a large cystic tumor most confusing in diagnosis as the tumor was apparently abdominal. Another was a rare case of Hirschsprung's disease, or chronic dilatation of the colon, especially of the sigmoid, congenital in origin. The third was infantile congenital stenosis of the pylorus, of which cases Mr. Stiles has operated upon somewhat over forty. These were seen at the Children's Hospital. Another class of operations in which Mr. Stiles is very much interested, concern the ligation of both common carotids, at intervals of ten days, for the cure of chronic hydrocephalus in infants. He has had two or three remarkable results. He believes in early operation for hernia when the hernia cannot be held up with a truss, and has operated on over 800 infants with rupture, with most excellent results. He does not use any dressings after such hernia operations. A "cage" is placed over the child to keep the bedding from the wound, the hands and arms being gently controlled by appropriate bands.

At Chalmers Hospital I was much interested in a case in which he removed the entire lower jaw, tongue, and anterior wall of the pharynx. The glands were removed extensively, and also a section of the internal jugular vein. Although the deformity was horrible, the patient was alive and in excellent health after a number of months.

I had the pleasure of seeing Mr. Alexis Thompson do considerable work. He is a brilliant operator, and makes rapid knife-dissections with exquisite delicacy. In addition to his junior position at the Royal Infirmary, he is chief surgeon at the Deaconesses Hospital. His aseptic arrangements are perfect and are carefully carried out. He showed me a number of cases, and among them was a patient from whom he had removed the greater part of the stomach for cancer in the pyloric end. This patient has remained well for more than nine years. He has a little trick of winding a couple of feet of catgut around the second joint of the great finger of his left hand, which he uses as a spool, so that he can tie a large number of blood-vessels very rapidly.

Mr. Davis Wallace is another of the junior surgeons who is making a reputation. He is a very rapid operator and has done a great deal of splendid work. I recollect one evening when he was out for dinner, that he drove a mile to the

Royal Infirmary, successfully operated upon a case of traumatic rupture of the intestine, and was back at the dinner table after an absence of only an hour.

To a student who is going abroad for the purpose of seeing surgery, Edinburgh presents favorable opportunities. The museum connected with the Royal College of Surgeons, is among the best in Europe.

The anatomical laboratories are under the general charge of Mr. Cunningham (author of Cunningham's "Anatomy"), one of the finest teachers of anatomy in the world. I spent several hours with him most profitably, and was particularly interested in his work on the comparative anatomy of the stomach and rectum, studied from an evolutionary standpoint.

NEW CASTLE ON THE TYNE

At New Castle is the Victoria Hospital, with nearly 600 beds. The surgical service is divided into four sections, each surgeon having about 50 beds.

New Castle's foremost surgeon is Mr. Rutherford Morison. Mr. Morison is original in his methods and is a bold and skillful operator. He favors a very large incision to secure good exposure, and crosscuts muscles extensively. For gall-bladder work he makes nearly a transverse incision parallel with the right costal margin, and of tremendous extent. In acute appendicitis he also cuts the muscles widely, and always removes the appendix. I saw him do pelvic and abdominal work and also some perineal plastic work in a most able manner.

I was much pleased with Mr. G. Grey Turner, one of the junior surgeons. He is a most accomplished young surgeon, clean, skillful, and possessing a splendid knowledge of pathology. For some years he acted as curator of the pathological museum. I saw hundreds of specimens which he had mounted, many of them for teaching purposes to show pathological conditions in their association; for instance, a contracted kidney, the second kidney without a capsule, cross-sectioned, and a large section of the heart showing hypertrophy—all from one subject.

Gynecological service in this hospital has but four beds, the operative work being done by the general surgeons.

At New Castle I attended a meeting of one of the branch societies of the British Medical Association which was given up almost entirely to clinical and laboratory work and to the exhibition of pathological specimens.

LEEDS

The General Hospital at Leeds has between 500 and 600 beds. The surgical service is divided into four sections, each surgeon having 50 or more beds. Leeds has been one of the leading

surgical centers of England for a hundred years. Among its distinguished men are the Hey family, father, son, and grandson, followed by the Teals, father and son, succeeded by Mr. Robson, and later by Mr. Moynihan and Mr. Littlewood when Mr. Robson moved to London.

Mr. Moynihan is an exceedingly able surgeon and carries his antiseptic technic to an extreme degree, even to the extent of fastening gauze protection to the margin of wounds. He operates twice a week at the Leeds General Hospital. Friday is his main operating-day, when he has at least five abdominal cases. His technic is of the highest order and follows a definite plan. I saw him do some stomach and gall-bladder work, and was particularly pleased with a partial gastrectomy which he performed for cancer. The dissection of the glands was very careful and complete, particularly about the pylorus and along the superior border of the pancreas. After closing the duodenum, the gastrojejunostomy was made on the posterior wall of the stomach before the tumor was cut away, the amputation and closing of the stomach being the last thing done.

BIRMINGHAM

Birmingham has a very beautiful modern hospital, but, with the exception of Lawson Tait, no great surgical traditions. It has two surgeons of eminence, Jordon Lloyd, the more notable of the two, was, unfortunately for me, away on his vacation. I was fortunate, however, in seeing Mr. Gilbert Barling do some excellent work.

LONDON

London has so many fine hospitals and such a wealth of surgical material that it is difficult to know where to begin to describe it. I shall therefore mention only a small amount of the work that appeared to me as being particularly good. I would place Mr. Robson first. While he has no hospital appointment he does a large amount of private work in nursing-homes. A profound scholar and an experienced operator, it is a pleasure to see him work. He very seldom drains gall-bladder or common-duct cases through the abdominal incision, but rather through a stab-wound near the tip of the floating ribs, tube-drainage being used nearly exclusively. If any gauze is used, it is a very small strand inside the tube to drain the space outside of the gall-bladder. He does cholecystenterostomy by suture without button or bobbin, and in all of his common-duct cases he does not rest satisfied until he has passed a large probe through the common duct into the duodenum.

At the Temperance Hospital I saw Mr. Paterson do some very clever operations upon the stomach and upon the large intestines. Mr. Paterson is a fine pathologist, and his work is based

upon sound principles. He has written largely upon the surgical diseases of the stomach,—“Hunterian Lectures” (1906), etc.

Mr. Paterson's medical associate is the justly celebrated Solten Fenwick, the widely-known author of works on ulcer and cancer of the stomach.

At St. Peter's Hospital, which is devoted to male genito-urinary diseases, I saw Mr. Pardoe remove the entire prostate and prostatic urethra for hypertrophy through a suprapubic incision. A very large rubber drain was then introduced to be left for four days, after which the wound would be allowed to granulate. In removing the prostate gland the finger of the left hand is used in the rectum to raise the gland up, and a great deal of force is used by the one or two fingers in the bladder to lift the organ from its bed. The crushing operation for stone in the bladder is used almost exclusively.

St. Thomas is the only large hospital in London in which asepsis is used exclusively. Here I saw Mr. Makin operate on a number of interesting cases. He seemed to be the sort of surgeon that one would trust to operate upon himself or his family.

At King's College Hospital, of which Mr. Watson Cheyne is the leading surgeon, antiseptic surgery is practiced. In all the other hospitals, antisepsis and asepsis are used in combination.

At the National Hospital for Epileptics I saw Mr. Victor Horseley remove a cystic tumor from the pituitary body. In brain work he usually turns down a large osteoplastic flap and stitches it back into place, waiting four days before attacking the tumor. He says that the sudden temporary failures on the operating-table are due to collapse, not to shock, and calls attention to the fact that true shock comes on slowly and lasts a number of hours. He says that the closer one gets to the base of the brain the greater tendency to true shock. He is a great believer in spinal surgery, and operates extensively on spinal diseases as well as injuries. In his peculiar line of work, Sir Victor Horseley has no equal. I left his clinic with a feeling of profound admiration for the man and his work.

THE W. GILL WYLIE APPENDIX OPERATION

John H. Richards, of New York, describes the technic of the operation for removal of the appendix which is used by W. Gill Wylie, for which he claims the following advantages: Not a muscle fiber is cut; there is no danger of hernia; the abdominal wall is not weakened; the scar is slight and with difficulty to be found.—*Medical Record*, October 19, 1907.

SYMPOSIUM ON CHRONIC DISEASES OF THE KIDNEYS*

ETIOLOGY OF KIDNEY DISEASE

BY GEO. DOUGLAS HEAD, B. S., M. D.

MINNEAPOLIS

It is not possible in a paper of twenty minutes to deal with the etiology, pathology, and symptomatology of all the forms of kidney disease comprised under the heading of this symposium. Not only would it be necessary to treat of the chronic parenchymatous and chronic interstitial forms of the nephritis, but, likewise, of tuberculosis of the kidney, amyloid disease of the kidney, and the degenerations resulting from passive congestion of this organ. Even if we narrow our view of the subject to the two commonly recognized clinical forms of chronic nephritis, the chronic parenchymatous, characterized, post mortem, as the large, white kidney, and the chronic interstitial nephritis, or contracted kidney, seen, post mortem, as the small, white and the small, red kidney, we have a subject much too wide in its scope to deal with in this paper.

It occurred to the writer that it might be profitable to consider the general subject of chronic nephritis from the standpoint of etiology, inasmuch as chronic inflammations of this organ are undoubtedly upon the increase in this country. Inquiry into the causal factors at play in the production of diseased kidneys may throw some light upon the cause of this increase.

We are coming to look upon the whole question of kidney disease more from the view-point of renal function, and less from the view-point of classification. In a given case, it is not so much a question of what variety of nephritis does the patient have, as it is a question of how much impaired is the kidney in its excretory function. Not long ago I examined a prominent clergyman of this state who had all the evidences of a chronic parenchymatous nephritis, which he had had for twenty-five years. Physicians who saw him in the initial attacks of the disease gave him two years to live. Certainly, in this case a study of the renal capability of the kidney would have been of more help in prognosis than to correctly classify the lesion. Then, too, many cases of kidney disease are mixed in type. The chronic parenchymatous nephritis may develop into the contracted kidney; the acute nephritis, with its succeeding attacks, may finally become acute exacerbations of a chronic parenchymatous nephritis, and we find all evidences, both clinically and in the urine of acute lesions, superimposed upon more or less profound chronic changes. In

fact a majority of the cases of chronic parenchymatous nephritis which we encounter are of this type. Therefore in a consideration of the etiology of chronic kidney disease we view the subject in the broadest sense and exclude, as far as possible, the confusion which pathological classifications would tend to inject.

Most of the chronic forms of Bright's disease have their beginnings, primarily, in acute nephritis, the lesions of which are repaired by the body with a more or less damaged state of the renal cells. One given an impaired organ, any number of different causes may arise to repeat, at longer or shorter intervals, the inflammation. By these repeated acute attacks there is fastened upon the renal cells and blood-vessels permanent pathological changes too profound to permit of complete regeneration. In a consideration of the causes operative in chronic diseases of the kidney we should begin with the factors most concerned in the production of the acute lesions.

The acute infections, through their specific organisms or their toxins, are the chief etiological factors in the production of acute nephritis. Of these, scarlet fever is a most notorious offender. Diphtheria follows a close second, while influenza, tonsillitis, pneumonia, erysipelas, measles, septicemia, articular rheumatism, and typhoid fever, all furnish their quota of cases. But little help can be derived from clinical histories given by the chronic cases, since many of these acute cases run so latent a course that the clinician or patient is many times not aware of the existence of a kidney lesion. Again and again has it happened to the writer in the routine examination of the urines of patients suffering from acute infections, to have found unmistakable evidence of acute nephritis where it was least expected from a clinical point of view. Had not a routine examination been made the patient and physician would have been in ignorance of this fact, and the history of such a case in later years would disclose no suggestion of previous kidney trouble. In some of the acute infections the specific organism of the disease, by its presence in the kidney, probably causes the lesion. The bacillus typhosis, diplococcus pneumoniae, streptococci and pyogenic cocci, and hematomeba malariae are such examples. In other acute diseases the nephritis is caused by the toxins of vegetable and animal origin, which, circulating in the blood, damage the renal cells and produce vascular changes. Roux and Yersin, Spronck, von Kahlen, Senator, Lyon, and others have produced nephritis in animals by injecting such toxins into them, especially the diphtheria toxin. The toxin of tetanus has also been demonstrated in the urine, and it is not improbable that the renal lesions produced by this disease are caused by its toxin.

*Read before the Minnesota State Medical Association, August 13 and 14, 1907.

Toxic substance, aside from those associated with microorganisms, cause inflammation of the kidney, which at first is acute, but later becomes chronic in type. The number of such toxins is very large, and much experimental study in their relation to the kidney disease has been carried on by various observers. It suffices to speak of the enterotoxines of F. Blum, and the urotoxines of Favré and Schelling. They differ in their action upon the kidneys according to their special nature and the intensity and duration of the irritation. It is not improbable that a considerable proportion of our cases of chronic nephritis arise from this source. The chemical poisons, oxalic acid, chloroform, ether, mercury, glycerine, and turpentine, can produce acute inflammations of the kidney, but we have no experimental evidence to prove that such irritation becomes chronic and leads to a permanent kidney lesion, except in lead poisoning. In this connection the presence of large numbers of calcium oxalate crystals in the urine of patients with chronic nephritis of the interstitial type, is of interest. These crystals may serve as an irritant to the renal cells and produce considerable inflammation in the kidney tubules. It has been shown, experimentally, by Pentzoldt and K. Glasser that irritations of the kidneys can be brought about by excessive feeding of foods highly seasoned with such condiments as mustard, pepper, etc., and by strong alcoholic drinks. That the high-living of our modern life, with its late dinners and excessively seasoned foods, plays at least a secondary part in the production of the chronic forms of kidney disease, cannot be questioned. It is doubtful whether these causes act as the primary factor, but, given a susceptible soil in the way of a kidney which has suffered from previous attacks of acute nephritis or unstable renal cells or blood-vessels transmitted by heredity, these factors play no minor rôle in the production of chronic renal lesions. Sudden changes in temperature and exposure to cold and draughts play a conspicuous part in the causation of acute nephritis and the acute exacerbation of a chronic nephritis. Just how the chilling exerts its influence is not known. Semmola assumes that it interferes with the cutaneous respiration and alters the albuminous bodies in the blood in such a way that they are excreted by the kidneys as non-assimilable substances. We have evidence in animal experiments that after the chilling of a body, hemorrhages into the various mucous membranes take place. Hemoglobinuria does occur in cases of nephritis from exposure to cold, but it is not a constant symptom. One curious fact about the chilling effect of cold upon the kidneys is, that even a local chilling, such as that applied to the feet or back, will produce the result. This is an effective argument against the old view that the nephritis was caused by a temporary suppression of the func-

tion of the skin by the cold due to the retention of excrementitious materials in the blood.

We have thus far dealt with the known causes of acute nephritis. We have done this because it seems probable, excluding a part of the cases of interstitial nephritis, that by far the largest percentage of the cases of chronic parenchymatous nephritis develop from the acute type. In the urine examinations of these cases which one makes from time to time, there is unmistakable evidence of an acute process superimposed upon a chronic lesion. This is shown in the presence of broad hyaline granular and often waxy casts, intermingled with narrow hyaline, granular, epithelial, and leucocyte casts, as well as blood-casts and free-blood cells. The clinical history of most of these cases is that of exacerbations and remissions, dependent upon a variety of external influences, excessive hard work (physical or mental), over-indulgence in food or drink, and exposure to wet or cold, each succeeding attack giving evidence of more severe kidney irritation in the increased albumin and width of the casts, and each attack becoming more persistent and difficult to recover from.

It is not possible in this day to accept Frerich's classification of Bright's disease into three stages of one and the same process. Otherwise we might end the consideration of our subject at this point. With Johnson we must accept an independent form with characteristic changes in the blood-vessels and interstitial tissue, which we call interstitial nephritis or contracted kidney. The etiological factors concerned in this most important variety of nephritis may now claim our attention.

A superficial study of a series of cases will convince one that the same diseases which play so important a part in the etiology of chronic parenchymatous nephritis, are not operative in the interstitial variety. In the first place, a history of acute infections is lacking in the majority of the cases. Sawyer, in a study of twenty-four cases of contracted kidney in children, found a history of acute infections in only five. In the second place, there comes into prominence in the histories of these cases a variety of long-standing chronic diseases which, we know, produce profound vascular changes; syphilis, diabetes mellitus, alcoholism, gout, chronic lead-poisoning, and all noxious agents which exert their action in the body over long periods of time. In the third place, the clinical course and urine-findings differ so entirely from the type previously considered that a sharp distinction must be made. Foremost in the consideration of the etiology of this type stands the question of the causal relationship of arteriosclerosis to chronic interstitial nephritis.

The pronounced arterial changes, so evident in the blood-vessels of the body, have been explained upon the ground that the enlargement of the heart has produced increased arterial tension,

which, in turn, caused the vascular sclerosis. For it has been demonstrated that increased intravascular blood-pressure favors the development of arteriosclerosis; on the other hand it has been assumed that the arteriosclerosis is the primary condition and that the kidney lesion is but a local expression of a general arterial fibrosis. Since the invention of an accurate instrument for measuring blood-pressure it has been shown that high arterial pressure appears early in the cases of chronic interstitial nephritis, an observation that favors the view that the arteriosclerosis is a causal factor in the production of the nephritis. There are other pathologists and clinicians who take a still broader view and consider the kidney lesion and the arteriosclerosis as a common effect of a common cause. Studied from an etiological standpoint, very little light can be shed upon the whole question, since those diseases which produce interstitial kidney changes likewise cause pronounced arteriosclerosis.

In this country syphilis, excessive use of alcohol, and chronic lead-poisoning head the list as the most common causal factors. Fitcher has described some few cases observed in chronic gout. Dickenson, Tyson, Kidd, and Herrick have reported cases tending to prove the etiological relationship of heredity or family predisposition; in other words, a renal family type. The writer has recently observed such a case where, in a young business man, a history of nephritis dated back on the male side for two generations.

While the conditions above named may act to lay the foundation of chronic interstitial nephritis, the victims of this disease, in this country at least, are carried prematurely to their graves by other factors operative in the business and social world of our American life. I refer to the high tension, the excessive nerve wear and tear under which the majority of our business and professional men carry on their work. Our strenuous American business life is as conducive to arterial cardiac and especially renal degenerations as is the excessive use of alcohol in Germany and Austria.

Every now and then one sees a beginning case of interstitial nephritis develop in a strong, robust, excessively hard-working business man in which all of the etiological factors here mentioned are absent. In a recent case which the writer observed clinically and post mortem every cause except excessively rapid eating and high mental strain, was wanting to account for the condition. In two other beginning cases now under observation nothing but excessive business strain and worry seemed at the basis of the renal change. One rarely sees the disease develop in men who are actively engaged in hard physical work, even when continued over a lifetime. Little by little man has increased his capacity for brain work. This increased cerebral activity

must carry with it an increased production of waste-products. We have reason to believe that these waste-products are especially difficult for the renal cells to eliminate, and in the attempt to rid the body of these toxic substances the blood-vessels and cells of the kidney are called upon to a degree beyond anything which nature ever intended. Man at the very threshold of his highest mental development may be face to face with an insurmountable barrier to a higher degree of brain activity in a renalis insufficiens.

FOR DISCUSSION SEE PAGE 511

MEDICAL THERAPEUTICS OF KIDNEY DISEASE

BY A. J. BRADEN, M. D.

DULUTH

Time will not permit an exhaustive study of so extensive a subject as the medical management of chronic diseases of the kidneys on an occasion like the present. My remarks will therefore be general, and I shall attempt to state principles rather than to go into minute details.

There is no place for routine methods in the treatment of chronic diseases of the kidneys. Each case should be carefully individualized, and the physician should adapt his hygienic, dietetic, and medical measures to the various phases of the disease and the individual conditions of the case in hand. Drugs are of so little use in the treatment of chronic nephritis, except to meet certain symptoms, the result of the disease, that the diet becomes of paramount importance in the management of these cases. The food should contain a fair amount of proteid, and be of such a quantity and variety as to properly maintain the patient's strength and vigor. He should eat moderately of what he does eat, for it is well established that over-eating is a cause of chronic nephritis. Excessive eating would not, therefore, be expected to promote its cure. The functions of the bowels and liver should be carefully regulated to prevent the development of enteric and hepatic toxemias, a source of constant danger to the nephritic patient. Taking care to adjust the quantity and variety of food to the needs of the particular case in hand, we may allow our patient with chronic nephritis, milk, not too rich, ad libitum, rice, potatoes, the various cereals, bread and butter, simple vegetables, fresh fruits, such as apples, pears, grapes and oranges, and a moderate amount of meat once a day. Any kind of meat, both light and dark, may be taken except the more indigestible kinds, such as veal and pork, and they are excepted only on account of their difficult digestion. Anything indigestible causes intestinal and hepatic toxemia, and thus

re-acting on the kidneys increases albuminuria.

Fish is allowed, and eggs may be employed tentatively. If they do not increase the albuminuria in an individual case, they may be used moderately.

Condiments of all kinds are directly irritative to the kidneys, and are particularly contraindicated in chronic nephritis. I refer to such as pepper, ginger, mustard, radishes, and horse-radish.

Alcohol is acknowledged to be a common cause of chronic nephritis. It is therefore reasonable to conclude that its continued use will aggravate the disease when once established.

Coffee, tea, and tobacco are practically in the same class as alcohol, and are either to be used in the greatest moderation or prohibited entirely.

In most cases of chronic nephritis, but more especially with the contracted kidney, cardiac hypertrophy sooner or later develops. This is a compensatory process, and through it the life of the patient is prolonged. When, however, degeneration and dilatation commence, the real trouble begins. To maintain proper nutrition of the heart the patient must be protected against over-work either from over-exertion of the body, or as the direct result of cardiac stimulants, such as tea, coffee, tobacco, and alcohol.

In cases with dropsy and in contracted kidney I think we have erred in the past by the over-doing of the milk diet and the forcing of water. Large quantities of water were given on the theory that the free renal secretion of water favored the elimination of toxic substances. Von Noorden first called attention to the fact that this forcing of liquids could be carried to excess, and that the excessive ingestion of fluids favored dilatation of the heart through the over-work thus made necessary, thereby endangering the compensatory hypertrophy of the left ventricle, upon which the life of the patient may depend more than upon the condition of the kidneys. In those cases in which the edema is marked and the urine scant, if the kidneys refuse to carry off the extra amount of water, we are not flushing them, no matter how much water is taken by the stomach.

While we cannot expect to affect the nephritis directly by the use of drugs, there are certain symptoms that arise, the result of the disease, that may require treatment. The circulatory changes cause a high arterial tension, which may or may not be accompanied by edema. The edema may be a direct result of the kidney lesion or, later, from a breaking-down of compensation in the heart. The treatment of the edema will differ according to which of these two factors is most prominent in its cause.

If the heart is fully compensated we may be able to keep the blood-pressure within safe limits by a careful dietetic and hygienic management, the free action of the bowels and skin, and a

lessening in the amount of fluids taken. If these measures do not prove adequate to control the arterial tension, we must resort in addition to vasodilator drugs to assist in maintaining a proper equilibrium. The nitrite of soda, in small doses, or nitroglycerine may be useful. The nitroglycerine may be used in doses of 1-100 of a grain and upwards every two or three hours. The best preparation to use is the alcoholic solution, one drop representing 1-100 of a grain. It should first be given in small doses and increased until its physiological effect is manifest, then reduced to the dose that gives best results. Individuals differ greatly in their susceptibility to the drug, and I am of the opinion that at least some of the unsatisfactory results reported from its use are due to an improper handling of the drug.

Where a more permanent effect is desired, potassium iodide may be tried. Theoretically, it would seem to be particularly indicated in cases with arteriosclerosis, and good results have been reported from its use. If any benefit is derived it must be continued for a considerable time, and it has the disadvantage of being liable to disorder digestion. When it disagrees, it must be discontinued. Diuretin, in doses of fifteen or twenty grains, three times a day, acts favorably if the edema is of cardiac origin, but has no effect in extracardiac dropsy. Dr. Shattuck recommends diuretin as an excellent aid in the diagnosis of the origin of the dropsy in these cases.

When signs of failing compensation appear, and the dropsy is of a cardiorenal type, then digitalis is indicated, due care being taken that its action does not become cumulative. It may be given with nitroglycerine, the nitroglycerine relaxing the arteriolar spasm caused by the digitalis.

When a chronic case suffers an acute exacerbation it is to be treated as an acute case, with rest in bed with hydrogogue cathartics, sweating, either by warm wet packs or dry hot air, and a limited diet. Anemia should receive appropriate treatment with iron, quinine, and strychnine, as indicated. Iron should not be used in large doses, as it locks up the secretions, causes headaches, and increases the danger from uremia.

These patients should avoid the "strenuous life," as prolonged bodily or mental fatigue has been known to be the exciting cause of uremia and death. They must be guarded against sudden changes of temperature and exposure to wet and cold. The warmth of the body should be maintained by woolen garments next to the skin. During damp weather rubber overshoes should be worn.

When a patient with chronic nephritis develops symptoms such as headache, restlessness, nausea, vomiting, delirium, etc., and is threatened with uremia, the treatment becomes that of acute nephritis. Return to a milk diet with a limited

ingestion, brisk purgatives, and active elimination by the skin.

FOR DISCUSSION SEE PAGE 511

SURGICAL THERAPEUTICS OF KIDNEY DISEASE

By ARCHIBALD MACLAREN, M. D.

ST. PAUL

One of the greatest recent advances in the surgery of the kidney has been in the treatment of tuberculosis of this organ. The diagnosis of this condition depends upon the discovery of tubercle bacilli in the urine. Occasionally the tubercular inflammation is confined to the bloody side of the kidney, and there are no abscesses discharging into the pelvis or tubercular ulceration of the mucous membrane; then the bacillus will not be found in the urine. When they are found, however, it shows tuberculosis either of the bladder or kidney, rarely of the prostate in men.

The mistake of examining a small quantity of urine is the usual one. If we are to make an examination of suspected urine, we should sedimentate a large quantity of urine, say, one or two pints; and then more than one specimen should be examined.

The condition of the bladder, as seen through the cystoscope, is of the next importance. The ulcerated appearance of the urethral opening is often sufficient for a diagnosis, and Harry Fenwick, as reported by Watson, in the *Boston Medical and Surgical Journal*, has recently removed a kidney on the cystoscopic appearance alone, without any other tests, and demonstrated tuberculosis of this organ. All authorities agree that tuberculosis is usually unilateral in its early stages. Guyon's teaching was that the infection is usually from the bladder, following the ureter to the kidney. But to-day the blood-current is looked upon as much the most common method of entrance, as Shede says. It has been proven by Freeman that, beyond all doubt, the principal mode of infection is through the blood, and he says further:

1. That tuberculosis of the urinary tract often begins in the kidney, attacking the bladder secondarily.

2. It is usually at first unilateral.

3. Medical or climatic treatment is unsatisfactory in most cases.

4. The ideal treatment is early nephrectomy, provided there is one sound kidney.

5. Tuberculosis elsewhere, unless far advanced, is not a contraindication to operation.

6. Tuberculosis of the bladder derived from

one kidney is positively benefited by nephrectomy and can seldom be cured without it.

7. The demonstration of tubercle bacilli in the urine often fails.

8. The removal of the ureter is not ordinarily indicated. If sinuses result, they nearly always heal in time.

Nephrotomy is an operation which never should be done on a tubercular kidney, unless it is done to relieve extreme suffering in a patient who could not stand removal or has but one kidney. In my early medical life I saw several patients upon whom this had been done; some of them I operated upon myself. They rapidly lost ground, and the constant and profuse discharge soon wore them out, so that they died from amyloid changes or general tuberculosis. Nephrectomy should not be done upon patients who have a badly damaged kidney on the other side, or upon patients with advanced pulmonary or bone tuberculosis. If the bladder be washed out, and then the two urines collected with a Harris segregator, one can usually form a pretty good idea of the functional capacity of the supposedly good kidney.

My experience with urethral catheters has not been very satisfactory in this class of patients; they easily become clogged and especially in tubercular ureteritis, causing so much bleeding that the urine which may be collected is unsatisfactory for examination. But I believe that under some circumstances they should be used, for valuable information may be elicited, and, I think, the danger of infecting the healthy ureter, if ordinary care is used, is very small. It is very distressing to remove the only active kidney, even when it is tubercular, as I have done on one occasion.

Case 1.—James S. had been sick for several years; first had left nephritic colic eight years ago, and off and on ever since; five years before had had an abscess of the left chest-wall, which was slow in healing. I have had no means of knowing the character of this abscess since his death. I have always suspected that it was tubercular. There was no history of his having had trouble or even colic in his right kidney.

When he came under my observation, in November, 1903, his physicians thought he had a stone in the left kidney. His right kidney could be easily palpated and was not particularly tender. There was no evidence of tuberculosis in the chest or other parts of the body. He had suffered from many attacks of nephritic colic, the last one six weeks before operation. He said that he loses one pound a day in weight during an attack. At the time of the operation, a large kidney was found adherent to the perirenal fat and showing scars of old inflammatory processes. Two cheesy abscesses were found at the lower pole of the kidney, not opening into the pelvis;

and many miliary tubercles were seen scattered through the entire kidney tissue. It did not seem possible to resect this kidney, so, remembering that the right kidney could be easily felt, it was removed. This man lived eleven days, only passing two ounces of bloody, limpid urine in all of this time. At the autopsy it was found that the right kidney was normal in size and position, but completely destroyed by tuberculosis, abscesses, and cheesy nodules having taken the place of the normal kidney substance. Possibly one might have been deceived even with the hand in the abdomen, but I do not think one could have been deceived after a decapsulation. This result might have been avoided by either making an exploratory opening in front or by following Edebohls' latest advice and decapsulating the good kidney before removing the diseased one. This would be one, and perhaps the only, justification for decapsulation that I know of. And while on this subject let me say that the experiments recently carried out by Nichols and others in Boston went to show that in a very few days the kidney reforms a new capsule so perfect and complete that it cannot be distinguished, even microscopically, from the original, and that new blood vessels do not grow in to help the circulation as Edebohls supposes. I have known of several of Edebohls' cured patients who showed no benefit following decapsulation in chronic nephritis, and who died at about the time when they would be expected to die from their disease. My experience with decapsulation has been very limited. The chronic cases have not appealed to me. I have seen such good results from intelligent medical care in the hands of my friends that I have felt that I could not improve upon their results. In the acute suppressions of acute nephritis I have also been disappointed and have not gotten the results which I have seen claimed by others. I believe that this class should have the benefit of exploration, and, if not too far along or if the inflammation be not too acute, they will recover. The exploration and decapsulation may not accomplish much. I have not seen any appreciable results so far, but I do not think that the operation will do any harm and it may do some good. Several of my surgical friends think that they have seen results, and I shall therefore hope to see them later.

An anterior laparotomy will usually determine the condition of both kidneys, and in some obscure cases will clear up the diagnosis more certainly than in any other way. It does not increase the mortality, and it prevents disastrous error. This was shown in a recent case where the woman had been suffering some pain in the right-kidney region, accompanied with persistent bloody urine. An anterior laparotomy showed a carcinoma of the right kidney. The other kidney was normal, and the appendix and gall-bladder

were not diseased. I now think that I shall never remove another kidney without either first making such an exploration or possibly exploring and perhaps decapsulating the other kidney.

Case 2.—Mrs. A. S., aged 27; one child three years old; soon after child-birth Dr. O'Brien removed tubercular cervical glands. For eight months she had been suffering from backache and cystitis, and had been treated for cystitis for four months. Dr. Shimonek had diagnosed the case as tubercular cystitis. Cystoscopy showed ulcer about the left ureteral opening. Catheterization of the right ureter gave normal but bloody urine. She was losing ground. A large, tender left kidney could be palpated. In April, 1901, a large, left lumbar incision exposed an adherent kidney. This was separated. The vessels were first ligated with catgut, and then the kidney was removed with several inches of the ureter down to the iliac vessels where it was broken off. In the first 24 hours she passed only 13 ounces of urine. After that it became normal, and she gained rapidly in flesh and strength. When last seen, some four years after the operation, she had gained over 30 lbs. and the cystitis entirely disappeared soon after her operation.

Case 3.—Mrs. W. L. L., patient of Dr. McKay, Bottineau, N. D.; aged 27; married one year. For two years the urine had been irritating, and she had suffered from almost constant backache. First noticed a lump in the left side five weeks ago. Operation at St. Luke's, December, 1903. At this time the left kidney was found almost entirely destroyed, and a large cheesy abscess containing fully one-half pint of thick tuberculous pus. Cheesy nodules were found all through the parenchyma of the kidney. An exploratory laparotomy demonstrated a normal right kidney and a chronic appendicitis. The appendix was removed. This was followed by lumbar nephrectomy with difficult removal of a large, much diseased kidney, which ruptured during removal. In six weeks she had gained 29 lbs. Two years later she came to see me, and was the picture of health, saying that she felt perfectly well.

FLOATING OR MOVABLE KIDNEY

Floating or movable kidney is a very common condition. Whether it is a disease is still problematical in my mind, for in my experience it is always limited to the right side, where the kidney is pushed down by the liver. I have never seen a left floating kidney, and to the best of my remembrance I have never seen a hydronephrosis which was not explained by some other pathological condition. In 1901 I read a paper before the Ramsey County Medical Society on the surgery of the kidney. At that time I reported the findings in examining 660 private patients, 80 of whom had movable kidneys, all on the right side. In a large proportion of these cases the

hand could be pushed in above the kidney displacing it well down to the pelvic brim. A large number of these women had no abdominal symptoms; others were cured of their symptoms by either pelvic operations or by removal of the appendix. Five of these women were operated upon for fixation of the kidney, with varying results; some satisfactory, others not. My experience with operations for the fixation of kidneys has been as unsatisfactory as with the same operation upon the uterus. They are both normally movable organs, and it is almost impossible to prevent their moving. If we absolutely fix them they are likely to be more painful than they were before. But the trouble is that we cannot fix them. The tighter we fasten them the sooner will the stitches cut out, leaving them almost as free as they were before.

Dietel's crises, which were formerly supposed to be diagnostic of movable kidney, are now known to be mostly biliary colics, and the rest are due either to stone or other organic disease of the kidney. Greene has recently told me that the spasm of the pylorus associated with gastroptosis has proven to be the condition causing some cases of Dietel's crisis. Edebohls was right when he said "that chronic appendicitis was frequently associated with movable kidney." My experience has led me to believe that the movable kidney was not a diseased condition in the large majority of these cases, and that, if the appendix be removed and the kidney be left alone, the cases will be relieved of their symptoms, if there is no other organic disease of the kidney.

In the last 1200 operations for various conditions, the large majority (1000) of which were abdominal, there have been but six nephrorrhaphies, all but one of which were combined operations. In these five cases other conditions were first corrected, and then, for fear that the movable kidney might be the cause of distress, this organ was also fastened.

The remaining case is of interest and is as follows:

Mrs. A. S., patient of Dr. H. Davis, of St. Paul; operated upon in May, 1904. Aged 40; has suffered from many attacks of right nephritic colic, with passage of bloody urine; for the past two weeks has been passing large quantities of thick, bloody urine. Careful examination of the urine showed no tubercle bacilli, but the patient is weak and very anemic, with mild temperature and a boggy, tender, displaced, right kidney. Cystoscopy: no disease of bladder; right ureter easily catheterized; left catheter can be passed only two inches; all urine collected came from right side, none from the left; a great deal of blood in the urine. Kidney explored through the lumbar incision. It was found adherent and cystic. Pelvis and upper ureter dilated and filled with bloody urine. Calices dilated and extending through

cortical substance in several places clear to the capsule. The pelvis was opened and explored; no stone or other diseased condition found. A No. 10 ureteral catheter was passed its full length, meeting no obstruction. An opening was made in the posterior surface of the kidney and the soft ureteral catheter stitched in. The kidney was loosened, and drawn up and fastened. On the third day the bladder and tube urine was clear; on the fifteenth day, the tube was removed, and the drainage-opening closed in twenty-four hours. She has had no return of her symptoms and is to-day perfectly well.

I still do not know exactly what was the matter with this kidney. It was not a movable kidney in the generally accepted understanding of this term. It was fixed too low in an unnatural position without any appreciable kink or valve-like obstruction to the ureter, because I could pass a catheter into it both from below and later from above. I suppose there must have been a kink, and probably my observation from above was made after delivering the kidney onto the loin, which would have straightened out such an obstruction. My notes are not clear on this point. At the time of operation I was under the impression that she had only one kidney, later I concluded that this was a mistake.

STONE IN THE KIDNEY

Dr. Osgood of New York says that renal colic is caused usually by traumatism of the mucous membrane, producing tonic spasm of the muscular coat of the ureter and renal pelvis, and that the severity of the pain is in direct relationship to the amount of the traumatism, and is usually produced by movement of the calculus or by distention of the renal capsule.

Patients without urinary signs are usually operated upon for removal of the appendix or exploration of the gall-bladder. I have one such case now under observation upon whom six months ago I operated and removed her appendix. She still suffers from such marked pain that I fear she has a renal calculus. I have not as yet had a radiograph taken.

Local tenderness in cases of stone will sometimes mislead one, because there may be no local tenderness over the kidney or calculus, but great pain over the distended ureter above the stone. With calculus in the lower ureter we may be able to make a diagnosis by palpation through the rectum; or, if near or presenting in the bladder, it may be touched with the sound or seen with the cystoscope, even while still in the ureter.

The x-ray is a positive proof if we can get a shadow on the radiograph, but, as Otis says, "the x-ray is not satisfactory, especially in fat people." Bevan thinks that one should always get a picture if a stone is present, and he reports finding 15 stones with the x-ray in 16 cases where stones

were present. Colvin tells me that although he has not found a stone with the x-ray, he thinks there should be no difficulty with the modern apparatus, and that, when it is possible to make a good picture showing the spine, there is no reason why we should not find the stone, with a soft tube and if the exposure is not too long.

Bleeding and local pain are the two cardinal symptoms, and if combined with tenderness a surgical diagnosis is made, and exploration is justifiable even without the radiograph. That a patient may pass a small stone and never have any further trouble is impressed upon my mind by two patients that I can now recall, who have passed stones years ago, 15 and 20, and who are to-day perfectly well with no kidney trouble.

My experience with stone in the kidney has been quite limited, consisting of some seven cases in which a stone was found at operation. A few of these cases are of more than ordinary interest.

Case 3.—This case was operated upon at St. Luke's in January, 1900. A. L. S., of St. Cloud; was 39 years of age; and had suffered from left nephritic colic and bloody urine for the past twenty years. He had passed sand from the bladder on several occasions. Lately there had been an increasing number of attacks of colic, and although he had not had to give up his work as a farmer, he always suffered pain and passed bloody urine after a long wagon-ride. On examination, a large, tender, left kidney could be easily palpated; no stone was found in the bladder. The x-ray was negative. My remembrance of this examination was that no radiograph was taken, and that it consisted only of a fluoroscopic observation. Upon exposure of the kidney by a left lumbar opening, a stone could be easily felt. On opening the kidney a large branching stone, weighing 700 grains, was removed piecemeal. The kidney was sutured with deep catgut through and through to control bleeding, and then dropped back. This man did not recover well and on the fifth day had a temperature ranging between 103° and 104°, and there was considerable discharge of pus from the kidney. A few days later the kidney was removed and was found necrotic and in such a condition that it could not be resected. Its vessels and ureter were ligated separately with catgut. After this he promptly recovered, and reported one year later perfectly well.

Case 4.—Mrs. M. W., patient of Dr. Stamm, of St. Paul; 45 years of age; mother of five children. Five years before I saw her Dr. Shimonek had opened the left kidney for large abscess. There has been a sinus discharging ever since. On April, 1901, I opened the sinus, which extended to the upper pole of the left kidney and then up through the diaphragm to a small empyemic cavity, which contained a stone about the size of a horse-chestnut. There was no pus or blood in the urine, and there was only an indi-

rect connection with the kidney. In the operation it was necessary to resect two lower ribs. A drainage-tube was put in the old abscess cavity. Six months later, as the sinus was still discharging, I re-opened the old sinus and found that there was a fistula, which I had not previously discovered, leading down through the diaphragm to a disorganized kidney containing a large stone which was plugging the ureter. After removing the kidney the woman slowly recovered and was perfectly well when seen six months ago, over six years after her operation.

Case 5.—Jno. S.; a patient of Dr. Herbert Jones, now of Minneapolis, then of Faulkton, S. D. This man was 60 years of age, and had been sick for seven years when he came to see me with cystitis. He was operated upon in the summer of 1902. At that time I found two faceted stones, three-quarter inch in diameter, in his bladder with a small median lobe of prostate acting like a ball-valve. I made a suprapubic proctectomy and removed the stones. One month later he passed a small calculus from the urethra. Six months after the first operation he came back with the history of having had four distinct attacks of right nephritic colic. There were pus and blood in the urine and pain in the glans penis. Nephrectomy demonstrated a flat, irregular stone about the size of a silver half dollar. On account of hemorrhage the kidney wound was packed with gauze. The kidney became infected and continued to bleed so profusely that at the end of the week the kidney was removed, when he promptly recovered. Eighteen months later he reported having gained twenty-five pounds, the picture of health and, as he says, is perfectly well.

DISCUSSION OF THE THREE PRECEDING PAPERS

DR. H. B. SWEETSER (Minneapolis): The subject of chronic kidney disease, elaborated in the excellent papers which we have just listened to, is really too large a one to be satisfactorily discussed in the five minutes allowed. A few general remarks on the salient points are all that is possible.

From the standpoint of surgery one of the most important facts recognized is that not infrequently disease is limited largely to one kidney. This is especially true in tuberculosis and in nephrolithiasis, and in certain cases of suppurative nephritis. In tuberculosis, early in the disease, it has been found that the lesions have been limited to one side in 80 per cent of the cases, thus allowing of successful surgical attack on the diseased organ.

Dependent on this, the question of accurate diagnosis has come to be of paramount importance to the surgeon: Are both kidneys present? If one is diseased, which one? If one demands excision, has the other sufficient functional efficiency to allow of life being maintained? The endeavor to answer these questions definitely and accurately has led to the development of our present methods of precision in diagnosis. Some of these methods are easy of application; some demand a considerable amount of skill and dexterity. It is possible barely to mention what these methods are. Most important is to determine the functional

efficiency of each kidney. This can be done only by collecting the urine from the two kidneys separately and preventing any admixture. This may be accomplished in two ways, either by passing catheters into the ureters through a cystoscope, or by dividing the bladder into two cavities by some form of segregator. The former method is much more accurate, but is more difficult of execution and, theoretically at least, is liable to cause an ascending nephritis.

The functioning efficiency may be determined by the phloridzin method, devised by Caspar & Richter in 1901. The technic is as follows: 0.01 gram phloridzin is injected subcutaneously, and the separate urines examined every 15 minutes. If sugar appears in 15 minutes, the kidney secreting it is normal; if in 30 minutes, although damaged the kidney is still capable of performing function for the whole organism; if not until 45 minutes, then the kidney is not efficient, and the opposite kidney cannot be sacrificed. As a corollary, if no sugar appears in the mixed urines in 45 minutes a nephrectomy cannot be done (Kapsammer: Surg. Gyn. and Obs., May, 1907).

As my time is up I can only call your attention to the x-ray and to kryoscopy of the blood and urine in kidney diagnosis.

DR. J. W. ANDREWS (Mankato): I have little to add to what has been said upon this subject. There is one idea that possibly is old to many of you and comparatively new to some. I have been in the habit, with great satisfaction, of examining the bladder and ureter in the female by getting the patient in a lithotomy position, and in the Trendelenburg position, and I have been surprised and gratified at what a good examination I can make with the Kelly speculum. Usually, to get a female in position is awkward, both to the patient and to the physician, but with the Trendelenburg position one can explore the ureter and the bladder nicely, and I can explore them better in this way than by any other method I have tried. I am not an expert in catheterizing the ureter, but I think you will find it more easily done by getting the patient in this position.

DR. W. E. HOWARD (Eveleth): I do not know that I have anything to add to the subject. There is one point in regard to the chronic form. I refer to a case of contracted kidney in which I was especially interested, with a systolic pressure ranging from 200 to 225.

The patient complained severely of periodical pains, occurring frequently at night, about the upper abdominal and cardiac regions. Whether these pains were due to stenocardia or acute gastric indigestion I am unable to state. The point I desire to emphasize is, that as soon as the tension was reduced the attacks of pain ceased.

In the matter of diet and the amount of fluids ingested, we shall be able to help our patients by close attention to the excellent advice given by von Noorden. The patient to whom I have referred could not take over 60 grammes of proteid, 246 calories a day, nor drink more than 500 c. c. of fluids, without causing increased pressure with the usual pains.

I have been assisted in feeding my patients, not only those with chronic kidney diseases, but those with all forms of nephritis and kindred diseases, by the pamphlet issued by the U. S. Department of Agriculture on the "Chemical Composition of American Food Materials." The caloric value of the foods is given in pounds, which can be readily converted to the metric system, if desired.

DR. H. A. TOMLINSON (St. Peter): In discussing the treatment of kidney disease, we should consider that there may be marked failure of kidney function without any of the ordinary evidence of involvement of the kidney. My attention was first called to this con-

dition by finding, post mortem, in cases of uremia, very little, and sometimes no, evidence of structural change. Later, and incidentally in the course of experimental work on animals, I was surprised to find how many of these animals had defective kidneys, cystic or shriveled. In post-mortem work among children I have found this same type of kidney, and I have seen in the new-born child the kidney reduced to a cyst surrounded by a thin rim of cortex.

This defective type of kidney must exist in various degrees, and in its lesser degree constitutes the congenital granular kidney of West, which I prefer to call the primary inadequate kidney, because the granular appearance is a terminal condition. These children always give a history of renal inadequacy, which is shown by marked digestive and nervous disturbance from slight incident causes. If the child escapes the contagious diseases and grows up, the evidence of renal inadequacy is more apparent in frequent attacks of auto-intoxication, and there may be even uremic attacks without any of the ordinary urinary manifestations of kidney disease.

Another interesting fact in the pathology of these cases is, that the blood-vessel changes are not those found in atheroma. On the contrary, the changes are atrophic, with thinned vessel-walls and disappearance of the media. These changes in the vessel-walls, making visceral engorgement easy, tend to increase the renal inadequacy.

With regard to the symptomatology of renal inadequacy, and particularly with relation to surgical conditions, the most important question is: How far is the kidney functionally capable? and not how much evidence there is of organic change in the kidney structure. In other words, incapacity of the kidneys is an individual condition. Very often there is apparent renal inadequacy, which is really dependent upon disease in some other organ; that is, there may be evidence of inadequacy in the kidney when the liver is at fault, and the same with regard to the heart, the lungs, the alimentary tract, and the skin. All of these indirect causes will be the more active in proportion with the primary or congenital incapacity of the kidney itself. In this class of cases there is no anatomical change found post mortem in the kidney structure, and yet the kidney has not been able to eliminate the waste material from the organism. These people are, therefore, the victims of a chronic intoxication, and under the stress and competition of social and industrial life they break down and die of uremia. This is particularly true if they have been steady consumers of alcohol.

I believe too much attention is paid to the making of rules for the diet of persons suffering from chronic disease of the kidneys. The physician should adapt the diet to the individual, and not the individual to the diet. In other words, what the patient enjoys, if he digests and assimilates the food, is the best dietary for him. There is nothing so true concerning diet as that, "What is one man's meat is another man's poison." Watch the individual patient and his digestion, and look to the urine and its constituents for the evidence of adequate elimination, but do not be content with the microscopic findings, for they are very deceptive.

DR. J. E. MOORE (Minneapolis): I think there is no topic in which the medical man and the surgeon can be of more help to each other than in this one of disease of the kidneys. So far, the medical men have accomplished more than the surgeon; probably they have been working at it longer than we, but we do know that by the administration of drugs many patients eliminate the poisonous products in nephritis and can be carried along for years. Surgery has not done so much in these cases. While we have learned a great deal about surgery of the kidney in the last few years we have yet much to learn. It is astonishing what one can accomplish. First, we have learned

that this organ is very tolerant of surgical interference. We can do almost anything with the kidney so long as we do not interfere with its nerve and blood supply. We no longer fear hemorrhage of the kidney; we no longer fear infection. Uremia and anuria are the conditions we dread the most, but under these extreme conditions surgery may be helpful. A patient of Meyer who had suffered from anuria for several days was restored by simply slicing open both kidneys. Dr. A. W. Abbott, of Minneapolis, had a patient suffering from obstructive suppression of urine for three days, and he did a nephrotomy, doing it under cocaine. A few days later she was taken with gangrene of the left leg, and the doctor asked me to amputate, which I did, and she was restored to health.

If any of you are not familiar with that classical work of Morris I would recommend you to get it. I know of no more inspiring book, for every page affords a revelation. We must learn, first, to be rather aggressive. Our work of diagnosis is getting better, skiagraphs are getting to be more reliable, and if a stone is found it should be operated on just the same as in the gall-bladder. We still have a few cases where the evidence of the skiagraph is negative. As time goes by we can operate more and more in these cases. We learn that nephrotomy of a tubercular kidney is not worth while, as the patient quickly dies. We have also learned that the removal of a portion of the kidney is not followed by satisfactory results. It is not so safe as the removal of the whole organ.

Tuberculosis of the kidney is usually one-sided at first, and when the diseased organ is removed nature often brings about a complete cure.

DR. E. H. BAYLEY (Lake City): I recall one case in the line of kidney diseases which I suppose was an acute nephritis, due to poisoning, intoxication from working in turpentine. A man came to my office in the day time and said he had peculiar dull feelings. I asked him if he could give me a specimen of his urine, and he said no. I prescribed some laxative, and in the evening I was sent for and found him going from one uremic convulsion into another. I thought he was going to die. I bled him about one pint and then gave him about a quart of saline solution by hypodermoclysis. The convulsions stopped, and in a few hours he began to secrete urine, and in forty-eight hours the albumin had entirely disappeared from the urine.

I had another case which was entirely different. It was a man who had been senator from our district for a number of years, who was suffering with chronic nephritis, and the urine used to contain a large amount of albumin. He had spent his winters in California, and a doctor there had given him electricity. When he came back in the spring he came into my office and said he wished me to give him some electrical treatments. It seemed to me nothing would have any effect on that man because there was so large an amount of albumin present. Within a week or ten days after beginning electrical treatment the albumin had disappeared, and his general condition improved, and I was able to keep that man so there was no albumin present and in good general condition for a period of three or four months. I was away for a time, and when I returned after two or three weeks I found the urine was loaded with albumin. He returned to California and died the following spring. It seemed that the use of the static current of electricity somehow influenced that man's kidneys. The man felt better, passed more urine, and was practically free from albumin during its use. I gave negative head-breeze, then positive insulation and finally used positive spray over the region of the kidneys.

DR. H. LONGSTREET TAYLOR (St. Paul): I desire to report a case of tuberculosis where it seemed to me an operation was bound to be but a partial one, as both the ureter and bladder were involved. I put this pa-

tient upon tuberculin. There was a large deposit of pus and detritus in the urine containing tubercle bacilli, but after six months of treatment the condition was changed. The patient has regained her health completely and has remained perfectly well for fifteen months.

If we can accomplish such results as this I think it is well to report the fact that tuberculin has, in many cases, cleared up tuberculosis of the kidney as well as tuberculosis of other parts of the body. I use it in small and increasing doses, as in other diseases, but in such localised tuberculosis, especially when the lungs are not involved, I do not fear reactions.

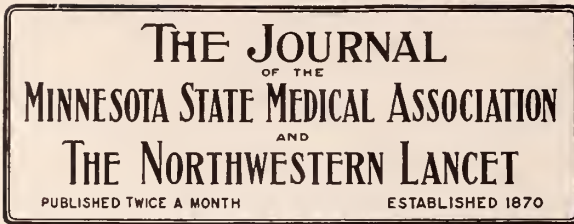
DR. GEO. D. HEAD (Essayist): I do not know that there is much to add to the interesting discussion we have had upon this subject. One thing occurred to me concerning the diagnosis of stone in the kidneys while Dr. MacLaren was reading his paper, and that is the presence of blood microscopically as washed-out blood cells in the urine. In many of the cases of renal colic, to the naked eye the urine shows no blood, and almost any one would say that blood was not present; but when examined under a high power of the microscope the blood is found. In my experience, if a careful examination is made microscopically in most cases of renal colic blood-cells are found in the urine, especially if the first urine passed after the attack begins, is examined. Experimentally I have tried to see how much blood could be put into a couple of ounces of urine without coloring the urine. I am sure no one could be more surprised than I was when I found that all the way from six to fifteen drops of blood could be put into two ounces of urine and the urine not be colored by the blood. Under the microscope from twenty to fifty blood-cells were present, and yet to the naked eye there was no blood visible. This is a valuable diagnostic finding and ought not to be omitted in any case where stone in the kidney is suspected.

With reference to the treatment of renal tuberculosis: I use the tuberculin that Dr. Taylor referred to, and there is positive merit in it, especially in the early stages of the disease. Dr. Hunter will remember the case of a young woman upon whom it was used to determine whether tuberculosis of the kidney was present or not. She reacted pronouncedly to the tuberculin. Although no more tuberculin was given the patient subsequently entirely recovered.

I observed another case for some time where tuberculosis of the kidney was present with tubercle bacilli in the urine. This case was given tuberculin over a number of months, the bacilli disappeared from the urine, and the patient gained 28 pounds in weight. This case has been under observation only six months, but at present it looks as though the lesion was permanently healed.

DR. ARCHIBALD MACLAREN (Essayist): I have merely to add that there is one condition which is generally considered not to be surgical, and which I now believe should be namely, an acute pyelo- or an empyemic nephritis. In the cases having small empyemic abscesses supposed to be thoroughly diffused through both kidneys, the old idea was that any surgery was useless. I remember distinctly the case of an old soldier who had an acute pyelonephritis. Late in the disease at the request of his family I made a section of the kidney to find it full of small abscesses and the pelvis filled with decomposed urine, and at the post-mortem examination I was amazed to find it was confined to one kidney.

The suggestion made by Dr. Head in regard to a small quantity of blood being found in the urine in the early diagnosis of stone, is surgically valuable in the early cases. In the surgical cases of stone in the kidney the bleeding was so profound and so persistent that it was valuable as the most important symptom. There is no question but that in the early stages of the disease it would be of decided advantage.



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"WHY DOCTORS ARE UNPOPULAR"

The above title was the subject of President Gillette's address before the Academy of Medicine at its last meeting in Minneapolis. Dr. Gillette was decidedly frank in his admission of the faults and weaknesses of doctors as a class, and he gave expression to the criticism of patients upon medical men. It was expressly stated that all kinds of doctors are lumped into one great mass, and the frailty of a few leavens the whole profession in the eyes of the public.

Professional men, particularly doctors, frequently have an erroneous conception of their relationship to their fellowmen and are often governed by obsolete views concerning an ethical standard. The writer was astonished to learn that the members of the legislature consider any bill endorsed by the medical profession as unsafe to present to, and difficult to pass, this worthy body. The suspicion is still present, delusional or hallucinatory, that whenever a doctor advocates a reform that will be for the benefit of the public at large it must result in pecuniary benefit of the physician.

The influence of the physician, of whatever school, is condemnatory rather than uplifting; hence it is very evident that the profession will have to engage a publicity committee who must

educate the people through the daily press; and to reach the press one must lower his dignity or stand accused of self-advertising. At least, this is the attitude of the law-maker and the majority of the people. It is generally conceded that the physician in the family is a worthy and safe advisor, while his goodness of heart appeals to the patient, and his faithfulness and his earnest and painstaking care of the sick make him a lovable friend in time of need; but the moment he steps into the public arena and gives his expert opinion, based upon his study and experience, he falls from his insecure pedestal, forfeits his dignity, and becomes a charlatan! The time will come when the physician will study his political friends and will make himself and his advice invaluable—when he is better understood.

The fear of becoming undignified has been a bugbear to the profession of medicine, and it is time this false modesty be cast aside for a broader aim in life, that he may be known, not only as a good physician, but as a good citizen. The public, it is true, are often just in their criticisms, and the profession of medicine must change its ways before it will gain a wholesome and much-needed respect for medical men.

Let us remember the careless and indifferent methods of life-insurance examinations; the failure to keep up with medical advancement by not reading books and medical journals; the lack of interest in medical societies; the coarse and one-sided testimony in court cases; the farce of so-called consultations; the needless operations performed; the misrepresentations of conditions to patients and anxious friends; the vulgar and ungentlemanly comments upon patients, fellow physicians, and new schools of treatment; the indifference of the methods of hospital internes and nurses toward the sick or refined patients who are led to expect courtesy, respect, and protection; the elastic or exorbitant fee system that is supposed to guide us in our work; our slack and unbusinesslike methods of collections and our negligence in paying outstanding bills; the reputed division of fees and the fear that the druggist pays tribute for prescriptions; and a host of other things that were formerly or are now a basis of criticism. Is it, then, a wonder that medical men are sneered at, ridiculed, and their kind offices and opinions discounted by the public at large?

We have much to learn and must work hard and loyally before we can be placed in the proper light before public and business men. It goes without saying that many medical men are honored and trusted, and that their opinions are valued and appreciated, but it will be some time before doctors as a whole will occupy a conspicuous and prominent position in state and national affairs.

The true physician must be clean, physically and morally; and his surroundings, his methods, and his associates must demonstrate his cleanliness. He must be active, energetic, earnest, and honest toward his patients, and he must show his skill and ability toward all classes. He must study and read and broaden his mind by contact with general subjects and association. He should be trained in business ways, in order that he may treat his patient and his creditor with fairness and promptness. He should interest himself in public and municipal affairs, and prove his fitness to discuss public questions. All of these things he may do if he will, but his tendency to systematize his methods can be accomplished only by effort. When the medical man reaches this plane he will be a power that cannot be ignored, but will he reach it?

THE MEETING OF THE SECTION OFFICERS OF THE A. M. A.

Dr. Burrell, the president-elect of the American Medical Association, met the officers of the various sections in Chicago on Oct. 25th, to confer on the proposed program to be presented at the meeting next year. Nearly all of the sections were represented by the chairmen or secretaries, and, with the trustees of the Association and the general committee of Chicago men, the attendance was large and the meeting full of interest.

Each section reported on the work it hoped to accomplish and the distinguished men who were expected from abroad.

An effort will be made to outline a program that will be fairly representative from different sections of the country. This seems like an easy task, but, in reality, it is exceedingly difficult to carry out. In previous programs the same names reappear year after year, and to the uninitiated this is manifestly unfair. To secure papers is not so difficult, but to get the right paper and the right man is quite a different problem. Many enthusiastic promises are made, but when the time-limit has expired many failures are reported. This is the main reason for the re-appearance of familiar names and familiar subjects year after year.

The majority of sections have limited the number of papers, thus adding to the difficulty of selection. The position of chairman or secretary is a delicate one unless the officer boldly chooses to invite the old standbys in order to make up the program. Undoubtedly, there are many deserving and experienced men who would be pleased to write papers, but their modesty or local acquaintance is not sufficient to bring them into prominence. There has been criticism in all sections of the Association based on the idea

that the A. M. A. is a close corporation, and, undoubtedly, many do not attend the meetings because they feel that they are not permitted to enter the sacred precincts. The only way to overcome this fear is to attend the meetings and to participate in the discussions, and to present new ideas or records of work that will demand further recognition. No good man can be ignored in the Association, and no unfairness is deliberately undertaken.

The Chicago men will not be conspicuously represented by papers in the large sections. Many will be invited to open discussions, and a plan is on foot for a series of clinics that will begin immediately after the adjournment of the Association to continue two or three weeks, giving an excellent opportunity for a short but interesting post-graduate study-period.

It is expected that the Chicago meeting will be a record-breaker in point of attendance, and it will be a wise move to reserve rooms months in advance.

DOCTORS' EXCURSION TO CUBA

Dr. A. Lind, of Minneapolis, who has spent three years in Cuba for the health of himself and his wife, will take charge of an excursion to Cuba arranged by the M. & St. L. railroad for January 7th. The present rates for first-class round-trip tickets is \$75.70, but this rate is subject to change by the railroad association, and it may be less.

Dr. Lind says the climate of Cuba is absolutely ideal, for the sick and the well, in the winter months, while the summer months are practically the same as in Minnesota, with a little less heat.

Physicians especially are invited to join the excursion which will furnish them a delightful outing and will, at the same time, give them first-hand knowledge of the conditions, climatic and otherwise, of a land to which many invalids have been sent and to which many more will be sent in the future.

Ladies, of course, are also invited to go on the excursion, which can be made in three or four weeks, or one's stay may be prolonged. Dr. Lind has no financial interest in the trip, nor has anyone else other than the transportation companies. A brief announcement of prices, etc., is made in our advertising columns.

RADIOGRAPH OF A MUMMIFIED FOOT

Eugene H. Eising of New York describes the radiograph of a mummified foot of an ancient Peruvian, in which the bones were seen to be in a remarkable state of preservation.—Medical Record, November 16, 1907.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

The regular meeting of the Academy of Medicine was held at the Minneapolis Club, Wednesday, November 6th. There were thirty-eight present. Dr. Arthur J. Gillette presided.

The amendment to the constitution proposed at the October meeting by Dr. Rothrock and prepared by the Executive Committee was adopted.

Dr. H. B. Sweetser presented a specimen of gall-bladder which he had removed and in which a single stone had obstructed and dilated the cystic duct, the duct being normal beyond the obstruction.

Dr. H. P. Ritchie reported a case of gall-bladder disease in a young woman in whom there had been almost continuous pain over the gall-bladder. Operation revealed several stones without bile. After removal of the stones a tumor remained, which necessitated the removal of the entire gall-bladder.

Dr. A. MacLaren stated that the most common growth in the gall-bladder is carcinoma, but that in this case it looks like epithelioma. No microscopic examination has yet been made, but cultures from contents proved sterile.

Dr. A. J. Gillette, the president of the Academy, then read his address, entitled "Why Doctors Are Not More Popular."

Dr. Ritchie made a clinical report, "A Sub-unguinal Giant-celled Sarcoma." It was discussed by Dr. A. Schwyzer and Dr. Corbett.

Dr. A. R. Colvin made a clinical report of "The Pathological Changes in Old Unreduced Dislocations of the Elbow; with the Report of a Case of Post-operative Paralysis." The report was illustrated by numerous skiagraphs taken from the case under consideration, and was discussed by Drs. Wheaton, Arnold Schwyzer, A. MacLaren, A. T. Mann, W. A. Jones, and by Dr. Colvin in closing.

ARTHUR W. DUNNING, M. D., Secretary.

HENNEPIN COUNTY SOCIETY

A regular meeting of the Hennepin County Society was held on November 4th. Dr. F. A. Knights occupied the chair. There were 30 members present.

Dr. C. H. Hunter reported, for the Committee on Special Study, that the committee had secured Dr. T. G. Lee, of the State University, to give a series of lectures on the nervous system beginning on the first Tuesday in January, 1908. A more definite program will be announced later.

It was moved and carried that the chair appoint a member of the Society to appear before the Woman's Club and discuss "Hygiene in the Minneapolis Public Schools."

Dr. A. E. Wilcox was reinstated, and the following candidates, having been reported favorably by the Censors, were elected to membership: Dr. Laura A. Lane and Dr. Robert Williams.

Dr. A. W. Abbott read a paper upon "Frequent and Painful Micturition," and the paper was discussed by Drs. H. B. Sweetser, Edwin Phillips, and J. F. Corbett, and Dr. Abbott in closing.

Dr. C. S. McKee gave a talk in regard to anti-toxins.

At the mid-monthly meeting, held November 18th, the president, Dr. J. E. Moore, presided. The name of Dr. H. Amanda Johnson was proposed for membership.

Dr. E. J. Brown read a paper on "Some Considerations on Education, Organization, and Compensation." The discussion was entered into by Drs. C. J. Spratt, J. E. Moore, Edwin Phillips, J. A. Watson, and F. C. Todd, and by Dr. Brown in closing.

Dr. F. C. Todd read a paper on "Hay Fever," and it was discussed by Drs. J. A. Watson, E. S. Strout, J. W. Bell, and E. J. Brown, and by Dr. Todd in closing.

Dr. J. E. Moore presented specimens of a gangrenous appendix, a fibrocystic tumor from the uterus with villous degeneration of the cyst, and the laminae of two vertebrae removed during a laminectomy for broken back.

C. H. BRADLEY, M. D., Secretary.

CENTRAL MINNESOTA SOCIETY

The annual meeting of this society was held at Mora, on Nov. 6th, with a good attendance present. The president and secretary being absent, through unavoidable causes. Dr. C. H. Cooney, of Princeton, was in the chair. A majority of the members answering to the roll call, the regular order of business was followed. The election of officers for the ensuing year resulted as follows: President, Dr. Charles Swenson, Braham; vice-president, Dr. O. S. Swennes, Lawrence; secretary-treasurer, Dr. A. J. Lewis, Mora; censors, Drs. Sterner, Cambridge; Olsen, Milaca; Titus, Mora.

Following the regular order of business the society took up the program for the evening, which consisted of a surgical clinic at the Mora hospital for a pelvic abscess following peritonitis.

Dr. W. S. Titus read a paper entitled "Drainage in Surgery."

A symposium on "Acute Intestinal Obstruction" was conducted by Drs. Cooney, Swenson, and Sterner. There was a liberal discussion by the members, and many good things were brought out.

At the close of the meeting the usual banquet was indulged in.

W. S. TITUS, M. D., Secretary, pro tem.

THE ABERDEEN (S. D.) DISTRICT MEDICAL SOCIETY

The Society met in Aberdeen on November 19th, Dr. Charles E. McCauley, the president, being in the chair. Twenty-eight members were present.

Clinical cases were reported by Dr. J. J. Diertz, of Northville; Dr. D. E. Arnold, of Aberdeen; Dr. A. Beil, of Selby; Dr. Chas. E. McCauley, of Aberdeen; and Dr. F. M. Crain, of Redfield.

The following papers were read and discussed:

1. "Iva Xanthifolia Dermatitis," by Dr. A. Beil, of Selby.

2. "Skin Lesions of Typhoid Fever," by Dr. F. M. Baldwin, of Ashton.

3. "Notes on Neuralgia, with Report of Case," by Dr. Wm. Edgerton, of Faulkton.

Dr. Robt. L. Murdy did not read his paper.

Under unfinished business the report of the Censors' meeting relative to charges made against certain members was called for. Before the same was read, Dr. H. A. Peabody moved that the reading of the report be indefinitely postponed, and the motion was seconded and carried.

Dr. Wm. Edgerton moved that the Censors' report be expunged from the records, including all references pertaining to the charges preferred against certain members of this Society on the question of examination fees for life-insurance companies; seconded by Dr. F. M. Crain and carried.

Dr. H. J. Rock presented the following resolution relative to changing the by-laws, which was presented for the first reading: Resolved, that the resolution pertaining to life-insurance examinations be removed from the by-laws.

The names of Dr. David J. Carson, of Faulkton and Dr. H. G. Harris, of Wilmot, which were presented at the previous meeting, were presented to the Society for action.

Dr. F. M. Crain moved that the names be accepted and the secretary cast a ballot in favor of each as a member.

The Society adjourned to B. B. Ward's for a lunch.

E. JAY CLEMONS, M. D., Secretary.

NEWS ITEMS

Bethesda Hospital of Fertile was dedicated last month.

Dr. A. M. Thompson, of Minneapolis, has moved to Atwater.

Dr. Thos. F. McKey, formerly of Albert Lea, has located in Pipestone.

Dr. O. L. Peterson has moved from Lindstrom to Parker's Prairie.

Dr. P. U. Laberge has moved from Willow City, N. D., to Williston, N. D.

Dr. G. P. Connolly, of Prior's Lake, is doing post-graduate work in Chicago.

Dr. F. M. Manson, of Worthington, has been doing post-graduate work in Chicago.

Dr. E. B. Crosby, a recent Hamline graduate, has located at Valley City, N. D.

Dr. Carl Butturf, of Minneapolis, has bought the practice of Dr. Kern at Albany.

Dr. O. H. Urstad, of Kiester, has returned from Norway, and resumed his practice.

Dr. John P. Brastad, who formerly practiced in Canton, S. D., has located at Oakes, N. D.

The City Hospital of Stillwater was damaged by fire last month to the extent of \$2,000.

Dr. J. S. Kilbride, of Canby, is home from his annual trip to Chicago for post-graduate work.

Dr. Charles V. Fox, of Tyndall, S. D., has sold his practice, and will move to the Pacific coast.

Dr. V. N. Peterson, State University, '06, has begun practice in St. Paul, with offices at 849 Rice St.

St. Michael's Hospital at Grand Forks, N. D., will be opened in a few days, probably on the 10th.

The Benedictine Sisters have rented a twenty-one room building at Rapid City, S. D., for use as a hospital.

Dr. E. W. Young, of Minneapolis, has moved to Becker, where he will practice medicine and keep a drug-store.

Dr. Albert Thompson, of St. James, was married last month to Miss Edna Josephine Erickson, of Minneapolis.

Dr. George H. Lowthian has moved from Hewitt to Akely and will be a member of the Union Hospital staff.

Dr. John L. Devine, of Lansford, N. D., has established a small hospital, and will enlarge it as necessity demands.

Dr. W. H. Lincoln, of Kellogg, formerly of Wabasha, is much improved in health. A short time ago he was dangerously ill.

Dr. Ralph C. James, of Hibbing, State University, '05, was married last month to Miss Phoebe Clune, of Minneapolis.

The corner-stone of the Northwestern Hospital building at Moorhead, was laid on Nov. 10th. The building will cost \$35,000.

Dr. F. G. Grover, Hamline, '06, has located at Black Duck, and is associated with Drs. Monahan and Osborne, of that place.

Dr. Henrik S. Schancke, who has been practicing at Portland, N. D., for the past three years, has moved to Park River, N. D.

Dr. W. T. Flynn, who has been practicing at Cavalier, N. D., has become surgeon of the Great Northern Railroad at Devils Lake, N. D.

Dr. H. E. Cleveland, of Osakis, has sold his practice to Dr. J. H. Titus, of Minneapolis. Dr. Cleveland will go to Burlington, Washington.

Miss Bertha Sonnenberg, a nurse in the Rochester State Hospital, has received an appointment in the General Hospital of Aberdeen, S. D.

Dr. M. J. Kern, who has been practicing for some time at Albany, has moved to St. Cloud and formed a partnership with Dr. A. G. Holdridge.

Dr. Carl B. Tesberg, of Spooner, Wis., has moved to St. Paul, and will be associated with Dr. H. Longstreet Taylor in his sanatorium work.

Dr. C. P. Friberg, Hamline, '03, who spent a year and a half in Africa and has been located in St. Paul for several months, has moved to Erskine.

Dr. S. J. Cheleen, State University, '06, has located at Hutchinson. Since graduation Dr. Cheleen has been house physician of Bethesda Hospital, St. Paul.

The second annual meeting of the societies in the First District met in Crookston on November 9th. Dr. Darrow, of Moorhead, presided and the attendance was good.

Dr. J. P. Schneider purchased the practice of Dr. J. J. Langford at Green Isle, and did not become his partner as we stated in our last issue. Dr. Langford will locate elsewhere.

The Central Minnesota Society met at Mora last month, when the following officers were elected for the coming year: President.

Dr. Charles Swenson, Braham; vice-president, Dr. O. S. Swennes, Lawrence; secretary-treasurer, Dr. A. J. Lewis.

The twenty-eighth annual meeting of the Minnesota Valley Medical Association will be held at Mankato next Tuesday, December 3d. An excellent program has been prepared. Dr. Frank Billings, of Chicago, will give a clinic on diseases of the stomach.

The Minnesota State Board of Pharmacy has sent a circular letter to all hospitals in the state calling attention to the pharmacy law prohibiting the compounding and dispensing of drugs by anyone not a registered pharmacist. Thus a hospital has no right to keep a drug department, even for its own use, without a licensed pharmacist. All hospitals should take notice.

The Black Hills (S. D.) District Medical Association met at Lead, S. D., November 7th. The Association decided to appoint a legislative committee for active work. Dr. J. A. Crouch, of Lead, read a paper on "Hysteria;" and Dr. F. E. Clough, of Lead, read one on "Typhoid Spine," with a report of a case he is now treating. Both papers were fully discussed. The following officers were elected for the coming year: President, Dr. W. G. Smith, Sturgis; vice-president, Dr. A. G. Allen, Deadwood; secretary, Dr. Felix Ashcroft, Deadwood; treasurer, Dr. F. S. Howe, Deadwood.

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A large compressed-air tank nebulizer and spray attachments. Price, \$50; cost, \$75. Call or write Dr. Samuel Musgrave, Room 204 620½ Nicollet Ave., Minneapolis.

FOR SALE

A good practice, with small drug-store, paying well, in central Minnesota. Population, Scandinavian, German, and American. I will retire. Address N. M., care of this office.

DOCTOR: If you want practical post-graduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box, 797, Post-Graduate Department, Tulane Medical College.

TO THE PROFESSION—X-RAY LABORATORY

I have a well equipped x-ray laboratory, rooms 214-218 American National Bank Building, corner Fifth and Cedar streets, and am prepared to do your radiographic or Roentgen-ray therapeutic work.—W. S. FULLERTON, M. D., St. Paul, Minn.

PHYSICIANS' ATTENTION.—Drug-stores on easy payments, etc. Drug-store positions, United States or Canada. F. V. Knies, Omaha, Nebr.

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CERTAIN FEATURES OF THE MODERN DIAGNOSTIC AND THERAPEUTIC ASPECT OF GASTRIC AILMENTS*

BY CHARLES LYMAN GREENE, M. D.

Professor of Medicine in the Medical Department of the University of Minnesota

ST. PAUL

The enormous advance made by medicine during the past two decades has found its most striking and dramatic expression in the field of bacteriologic investigation, and the mind is so filled with the triumphs of preventive medicine and the newer phases of serum diagnosis and therapy that the steady progress along other lines is readily overlooked.

Yet during the past few years patient investigators, both in laboratory and clinic, have thrown an immense amount of light into an hitherto obscure cavity, illumining its normal and pathologic physiology and giving to us a better classification, newer and more definite diagnostic methods, and a more rational and effective therapy. How rapid this advance has been is not generally appreciated; and, strangely enough, at the very period when the armamentarium of the internalist has reached its highest development he finds that surgical aggressiveness has attained a point that would have been better justified forty years ago, but is out of consonance with present knowledge.

At the very time when magnificent monographs are carrying the message of the newer diagnosis and therapy we find the surgical works astonishingly deficient in the evidence of any

serious attempt to use the weapons at hand, other than the knife, to correlate medical and surgical means of cure or to provide the profession with statistical data of a convincing kind.

If, in this address, I can make clear the enormous change in the aspect of this formerly obscure branch of medicine, emphasize the simplicity of its most available methods, and show in some measure the necessity for careful and scientific examinations and treatment as the proper preliminary to that veritable short-cut to both diagnosis and treatment, viz, the exploratory incision, I shall be richly repaid.

Happening by chance upon an old copy of the third edition of Trousseau's "Clinical Medicine" and reading with delighted appreciation that gifted writer's description of gastric ailments, I was no less impressed by the luminous intelligence evident than by the pitifully meagre facts then available, and the uncertainty of both the diagnostic and therapeutic method. It then occurred to me that the date of the volume (1867) represented the first use, by Kussmaul, of the rigid stomach-tube, which, when applied by Leube, in 1871, to diagnostic uses and made safe and available by Ewald's introduction of the soft tube, in 1875, proved a master-key to unlock the mysteries of normal and abnormal digestion, and a valuable addition to therapeutic appliances.

*Oration in Medicine. Delivered before the Minnesota State Medical Association, August 13 and 14, 1907.

In 1879 Van der Velden made known the aniline-dye reactions; and the introduction of the test-meals, by Boas, Ewald, Riegel, Bourget, and others, enormously extended the field and increased the accuracy of clinical investigations. The whole development of gastrology is a matter of only four decades. Many of you may be surprised to learn that this work is of so recent a date; if so, amazement will replace surprise when you compare the knowledge of only a decade ago with that of the present time. Such has been the growth that I know of nothing more discouraging than a perusal of one of the recent giant monographs by any one who has failed to keep pace with the later contributions.

The great achievement of the past two decades has been in the direction of establishing a definite, recognizable, and demonstrable normal for secretion and motility alike, and the use of accumulated data for the correction of erroneous first impressions regarding the diagnostic and therapeutic significance of isolated gastric phenomena, the result being to give to the physician a simple and easy method for the differentiation of the great majority of gastric ailments, together with a greater breadth of view and an increased facility in the proper interpretation of collective symptoms. As a matter of fact, one versed in the modern physiology and intimately acquainted with the clinical technic need no longer approach gastric ailments with the uncertainty of the earlier empiricism, but he can unite simple and direct diagnostic methods to a rational therapy, which embraces not only drugs, but rest or exercise, massage, lavage, hydro-electro- and psycho-therapy, together with a scientific application of modern dietetics. I say *simple* methods with truth, for, though my office, shelves and those of many of you are full of apparatus for transillumination, direct observation, and the like, all I need in 99 per cent of my cases is a set of Sahli's stomach-tubes, a few chemical reagents, and a little glassware. There are indeed two burdensome requisites, namely, sufficient time for the completion of an examination, which necessitates several sittings on the part of the patient, and a willingness on his part to give time and to sacrifice his convenience to the necessary therapeutic measures. The man who must take the next train and carry his cure in a bottle had best remain at home.

The factors actually entering into modern medical work may be stated as follows:

A. *A thorough understanding of the chemical and physical changes associated with digestion.*

B. *A better knowledge of gastric motility and of the normal and abnormal variations in the size and position of the stomach.*

C. *The pathologic variations in relation to the digestion of test-meals of known composition.*

D. *A thorough knowledge of food substances based upon their chemical composition, caloric values, and effect upon gastric and pancreatic secretion.*

E. *A more definite understanding of the combined gastric neuroses, which are said to compose from 70 to 80 per cent of the cases encountered by the internist.*

F. *A scientific application of therapeutic measures of the most varied sort largely controlled by gastric findings, with the consequent elimination of guesswork therapy.*

G. *A better understanding of the gastric disturbances associated with diseases of organs other than the stomach.*

H. *A slowly increasing appreciation of the broadened field of medical therapy and of the uselessness of surgical procedure in many cases formerly regarded as strictly operative.*

Before long I trust there may be added to this list:

I. *Better surgical and medical statistics and a definite effort to ascertain the true field of each branch of medicine and reach a wise co-operation in relation to gastric ailments.*

As regards the *normal digestion* I need only say that from the practical standpoint, it is now thoroughly understood, not alone as to the actual processes of ptyalin and gastric digestion, but quite adequately as regards the major processes of intestinal digestion and absorption and the effect of the various foods and beverages upon secretion. As to the most practicable tests based upon this knowledge and at present in clinical use, these are as simple as they are beautiful, and in the case of HCl the older qualitative tests have given place to quantitative procedures.

Amongst a score of these latter the practitioner may select the simple reactions suggested by Töpfer, in 1896, as being sufficiently accurate for clinical work and so simple as to require no extensive special training for their employment. A decinormal solution of NaOH, a burette, and three solutions containing the color indicators (phenolphthalein, alizarin, and di-methyl-amido-azo-benzol), to be added to the gastric contents before neutralization, comprise the apparatus required, and the rest is a simple problem in multiplication.

As regards the organic acids, the qualitative tests usually suffice, and aside from the use of a ferric-chloride solution or the reagent of Uffelmann for lactic acid, the nose alone will detect their presence in the freshly removed, warm stomach-content, or simple tests will suffice.

The microscopic examination demands but little ordinarily, and this only in the presence of certain well-defined abnormalities of secretion. The recognition of starch granules, muscle fibre, free cell-nuclei, sarcinae, yeasts, and blood-cells, represents but the rudiments of microscopy. The

tests for occult blood are equally simple, and the use of Lugol's solution differentiates the important lactic acid (Boas-Oppler) bacillus from its simulator, *leptothrix buccalis*.

As regards the *pro-enzymes and enzymes*, their presence and activity are assured in the presence of HCl, and the simple old tests of egg-digestion suffice to establish the presence of propepsin and pepsin in conditions of subacidity or anacidity. The lab ferment presents no difficulties, and the fat-splitting ferment of the stomach has recently been shown to be a myth, that found in gastric contents being the steapsin of regurgitated pancreatic secretion. This fact is of much interest as explaining, in part, the good effect of olive oil and like substances in conditions of hyperacidity, which latter is undoubtedly in a measure corrected by the alkaline pancreatic fluid.

Gastric Motility.—The importance of motility at present dominates the clinical side of the subject, and here again we find that from a wealth of methods, including the use of delicate and elaborate instruments, clever chemical tests, the *x*-ray, with the massive bismuth doses and the like, we may choose the simplest, namely, the stomach-tube, which enables us to determine the residual content at any stated time after the administration of the test-meals and compare our findings as regards quantity and chemical and microscopic composition with a known normal. And so with the *changes in the size and position of the stomach*: the stomach-tube suffices, when properly used, to show the various degrees of gastroparesis, atony, and ectasia and in many cases even the hour-glass stomach. Hence inflation should be a routine procedure in gastric examinations, not indeed by the uncertain, uncontrollable, unscientific, and unsafe older method, in which tartaric acid and bicarbonate of soda was used, but the properly controlled and easily measured introduction of air through the tube itself. This is simple and easy when the patient is slightly habituated to the use of the tube, as must be the case if the proper number of test-meals have been administered, and not only does the patient's expression and action indicate accurately the maximum safe dilatation, but the removal of the air is instantly accomplished when the rapid examination is completed. If, on the other hand, inflation is impossible because of the escape of gas through the pylorus we have added suggestive pyloric incompetence to our knowledge of the case.

With inflation, simple inspection usually shows plainly the gastric outline in cases of dilatation or marked displacement because of the usual coincidence of a relaxed musculature, but to this auscultatory percussion is added.

Time will not permit a discussion of the remarkable advance in our knowledge of foods and

beverages in relation to health and disease, but the modern dietary is a very different thing from that of the days of our grandmothers. The composition and nutritive values are well understood; beef teas and extracts have been given their proper place as palatable starvation mixtures. Milk is better appreciated, as is the proper mode of its administration. Sugar has lost many of its terrors, gained much in reputation, and found its indications and contraindications. Most important are the studies covering the effects of various foods upon gastric and intestinal secretion and motility.

It is a pity that the public cannot be informed as to the real value of the breakfast-foods and various patent nuisances, some bearing the stamp of medical institutions and carrying most of the earmarks of the patent-medicine fakir. For the most part they require the stomach capacity of an ox and the appetite of a woodsman to bear out their claim as foods, and in the quantities usually consumed they owe their nutrient values chiefly to the sugar and cream with which they are eaten and which many absorb like so much blotting-paper. That some are palatable and useful as food adjuncts cannot, however, be denied.

As regards *The Gastric Ailments or Symptoms Associated with Disease Affecting Organs other than the Stomach* much can be said by any internalist, and it opens a field too large for adequate discussion within the limits of this address.

In this connection a tendency to accept certain prominent symptoms, such as pain, at their face value, an equally deplorable desire to establish rigid symptom-groups, and an unblest tendency to fix the mind upon a few facts to the exclusion of many others, is the cause of an infinite amount of error. The medical man's errors in gastric diseases are frequent enough and he must often fail where the surgeon succeeds, but seldom are his mistakes buried with the patient nowadays, for there is usually a surgical intermediary. On the other hand, he sees scores of cases where surgery has played an important part; scores in which radical operation has been performed without relief, and, indeed, where the last state is infinitely worse than the first; yet others in which the original misdiagnosis led to an unnecessary operation, and a yet greater number in which operation has been advised and an entire cure obtained by purely medical means.

As often leading to hasty and erroneous conclusions let us consider, first, *certain ailments strikingly gastric in their symptomatology*, yet almost wholly related to other organs as to causation; and secondly, *certain of those gastric diseases and symptom-groups which are but secondary or subordinate phenomena, or indeed lacking any organic cause*. One recently described and highly misleading condition is that known as

arteriosclerotic abdominal crisis, which is characterized by sudden attacks of severe, distinctly epigastric pain, often agonizing, of short duration, but strongly suggesting tabetic crises or actual gastric or duodenal lesions, from which latter they are to be differentiated by the greater diffusion, the associated tenderness over the abdominal aorta, the lack of relation to meals, the negative gastric findings, and their tendency to be initiated by emotion, physical exertion, and especially by the assumption of the dorsal recumbent position, and the relief afforded by diuretin and strophanthus.

Arteriosclerosis is usually marked and evident, and in two of a series of cases coming under my observation genuine angina pectoris alternated with the abdominal crises.

Tabes dorsalis is usually, but not always, excluded by an examination of the Achilles- and knee-jerks and the pupillary reactions, and it may be said, in passing, that these routine tests should be made with especial thoroughness in all cases associated with paroxysmal abdominal pain.

Much good ink has been wasted in a description of *Dietl's crises* as a part of the symptomatology of floating kidney. I firmly believe the crises are not of renal causation save in the rarest instances, and when not to be referred to gall-stones, appendicitis, gastric or duodenal ulcer, and the like, they are due to *pyloric spasm associated with the gastropnoia that accompanies such cases of floating kidney with great constancy*.

So, also, with that interesting syndrome falsely known as *Rosbach's disease*. This, a periodic hypersecretion with hyperacidity and painful crises, is *either a bastard syndrome or must seek its parentage in tabes dorsalis*, in which disease the gastric crises occasionally constitute the first symptom. It is an important fact that the attendant vomiting does not relieve pain, as in hyperchlorhydria with or without ulcer.

Gall-stones.—There is an astonishing dearth of literature bearing upon the gastric findings associated with cholecystitis, but according to my own experience one may find chronic gastritis, hyperchlorhydria, hypochlorhydria, and occasionally achlorhydria.

Hyperchlorhydria cases with pyloric spasm associated with gastropnoia have, in several instances coming under my observation, been regarded and surgically treated as cholecystitis, and no doubt error of this sort is not infrequent. The pain relationship between lesions of the pylorus, duodenum, and gall-bladder so insufficiently delimited because of structural contiguity that the localized tenderness over the liver, anteriorly and posteriorly, and especially over the gall-bladder on deep pressure at the end of the forced inspiration becomes of paramount importance,

especially in those cases lacking support of otherwise typical symptoms.

As regards the *pain* itself, the chief factor lies not so much in any point of maximum intensity or in its lines of radiation as in the *irregularity of the dates of its seizures, the lack of relief by vomiting, and its independence of digestive periods as regards the hour of onset*.

Chronic appendicitis furnishes another example of the lack of sufficient data as to gastric findings. A coincident mild, chronic gastritis has been the usual finding, but the most marked variations in secretory activity may be encountered. Epigastric pain of a most misleading character may be encountered, and, furthermore, the outward symptoms of nervous dyspepsia may be manifest, together with exhaustion upon slight exertion slight fever, and chronic malnutrition. Nervous dyspepsia combined with an appendicular hypochondriasis is not uncommon and has led to many futile operations, but the error of omission is the more frequent one, and the physician the one more often at fault.

A history of antecedent acute appendicitis, recurrent attacks; hyperesthesia bounded by the median line, Poupart's ligament, and the level of the iliac crest; increase of any existing pain, whether hepatic, gastric, or umbilical, by deep pressure over McBurney's point; right-sided dysmenorrheal pain in women, unassociated with palpable lesions of the uterus or adnexa; persistent and otherwise unaccountable slight temperature and obstinate constipation of either a spastic or atonic type, must be sought. Neurasthenic cases should be given a chance to recover under appropriate medical treatment. I have seen far too many cases operated upon for appendicitis without relief of symptoms, and the ultimate discovery of other lesions, though the appendix was not wholly normal at the time of operation. On the other hand, I freely admit that in no other region has surgery been of as much value to the physician.

Nervous Spasm of the Pylorus unquestionably occurs as a part of so-called neurasthenia or hysteria and is similar to the cardiospasm with which it is occasionally combined. It differs in no material respect from the spasm associated with hyperchlorhydria, may closely simulate ulcer without hemorrhage though it lacks localized fixed pain, undoubtedly leads to futile operation, and is capable if long-continued of producing a well-marked, often temporary, but most misleading ectasia.

Diseases of the Heart.—The slightest compensation and stasis tend to depress motility and secretion, and frequently to cause a chronic gastritis. They do not often show pseudosurgical symptoms, but more often mislead the physician who vainly devotes his attention to the stomach rather than to the causative lesion.

Referred pleuritic pain, renal calculus, lead colic, spastic constipation, abdominal tuberculosis, nerve-root pains, myelitis, hernia in the linea alba, are among the many conditions which serve to emphasize the necessity for thorough-going examinations in cases characterized by abdominal pain and to prove that no man can safely limit his knowledge of medicine to one set of organs or even to one of the two major divisions. *The gastrologist must at all events be an internalist.*

As to misleading conditions affecting the stomach itself or chiefly manifested by gastric symptoms we may select (a) *Chronic Gastritis*; (b) *Erosions and Ulcer*; (c) *Gastroptosis*; (d) *Carcinoma*; (e) *Muscular Insufficiency with or without Obstruction*; (f) *Gastric Syphilis*; and, last but not least, those curious cases comprised under the general heading of *Nervous Dyspepsia*.

Chronic Gastritis, *per se*, offers no difficulties in diagnosis, whether associated with hyperacidity, euclorhydria, or, as is more commonly the case, with subacidity. The slow-filtering, mucus-filled stomach-content is characteristic, nor is this diffused mucus likely to be confounded with the surface mucus or large masses derived from the upper digestive tract, but it is its associations that are important, and the physician must ever remember its frequency as a secondary factor in ectasia (in which the picture may closely simulate malignant disease), in gall-stones, intestinal parasites, disease of the heart, lungs, and kidneys, exophthalmic goitre, anemia, leukemia, and finally chronic interstitial hepatitis.

Achylia gastrica of the simple type is occasionally pronounced carcinoma, although the error is seldom justifiable.

Gastroptosis, especially if associated with ectasia, is frequently accompanied by paroxysmal attacks, due to pyloric spasm, and is a decidedly misleading condition unless the preliminary examination has included inflation. *Movable or floating kidney always suggests its presence*, and frequently, but not always, the peculiar habitus enteropticus is most striking.

Gastric Syphilis may prove a most puzzling condition, and in three cases observed by me, which promptly and permanently recovered, the symptoms were suggestive of carcinoma. In two, a palpable tumor was present, one of the pylorus, the other as a distinct plaque over the fundus of an apparently dilated stomach. In the third there was a point of exquisite localized tenderness, but the findings were those of carcinoma. One, a sailor, was given mixed treatment by reason of his occupation; another, first denied and then confessed syphilis; the third was the father of children with Hutchinsonian teeth. I believe the disease is less rare than we formerly believed and that many such cases are operated upon for ulcer and carcinoma.

As to *carcinoma* itself, I am a firm believer in surgical exploration and an appropriate operation if the diagnosis can be made early or if the patient thoroughly understands the pros and cons of surgical intervention and will make that his choice.

The diagnosis of advanced carcinoma, with or without a palpable tumor, is usually easy from an examination of the stomach-contents. The recognition of early cases must of course have a limit, but in my own experience it is easier in those cases with primary hyperacidity or normal acidity than in the ordinary form, for the reason that a steadily waning acid-content with progressive dyspeptic symptoms is most significant in connection with three of the most striking of all symptoms of malignant disease, namely, *progressive loss of weight, increasing weakness, and an extraordinary resistance to all forms of treatment.*

Mere achlorhydria has lost much of its importance as a single symptom, but when associated with lactic acid after the Boas meal and large numbers of the lactic acid (Boas-Oppler) bacilli, it seldom fails to indicate the ulcerative stage of malignant disease, blood being found in such cases, either microscopically or by microscopic and chemical tests, and the diazo reaction frequently being present in the urine. On the other hand, however marked may be the evidence of stenotic ectasia, the sarcinæ are seldom or never found *in quantity* in the presence of malignant obstructive growths.

Gastric Ulcer.—Bourget declares that under a correct and adequate diagnosis gastric ulcer is one of the most readily curable of diseases, and personal experience leads me to the same conclusion. Practically the only cases of ulcer really demanding surgical relief or justifying radical operative intervention are those in which medical treatment, including absolute rest, has failed, and cases of painful adhesion or actual obstruction. To these I should add some severe cases in those whose poverty prevents proper care or whose intelligence or obedience cannot be depended upon.

This subject of *gastric ulcer symptoms* has been worn threadbare in recent years, and with due appreciation of the value of collective symptoms the more one studies its variants the more is he convinced that *sharply localized tenderness and hemorrhage* are the two distinctive symptoms, often associated with fixed pain, anemia, and usually with the well-known symptoms of hyperchlorhydria superadded.

The diagnosis of duodenal ulcer can seldom be made with accuracy unless one finds blood in the stools and not in the gastric content, a pain and tenderness to the right of the parasternal line, usually late in onset, but distinctly related to digestion periods, unassociated with tenderness over the gall-bladder or with symptoms of

cholecystitis, or those cases associated with stenosis of the middle or lower segments and accompanied by the persistent vomiting of bile from the fasting stomach and slight jaundice. Both conditions must often be overlooked and are frequently assumed to be present when other lesions or a mere neurosis is causative.

Gastric ulcer is undoubtedly far more often a relatively symptomless condition than is generally understood, and the most marked symptoms are likely to attend the pyloric lesions, following the rule of Bourget, who states that pain and spasm associated with any gastric lesion will depend upon the proximity of the lesion or area of hyperesthesia to the pylorus, whether beyond it in the duodenum or within the stomach itself.

The distinction between simple erosion and actual ulceration is futile from a medical standpoint as both require and respond to the same treatment.

I shall not attempt to discuss the combined *gastric neuroses* save to say that in many cases they can be differentiated as such only by the incoherent, perhaps contradictory, symptoms, and painstaking examination of the gastric contents, and that a pronounced neurasthenic taint may accompany and obscure the superficially examined patient with gastric ulcer or even carcinoma, or initiate spurious symptoms of a most misleading sort in purely functional cases.

Reflex irritation of the most diverse sort may be causative. Every form of disturbance of secretion or motility here finds its place, and hysterical simulation may deceive the very elect if the stomach-tube be not brought into requisition and the patient held under prolonged observation and firm medical control.

Woe to the surgeon who operates on these victims except on plain grounds. Where one is cured by the psychotherapeutic effect of the procedure a dozen are made worse by operation, and these rise up from the sick bed only to wander forth with new and, possibly, more real foci for malignant introspection.

Therapy.—The wide range of therapeutic measures now available for the treatment of gastric ailments, is no less remarkable than the rational manner in which they are applied. The old battle between those who would administer alkalies and those who stood for acid medication, is over, and both are used according to the findings revealed by the stomach-tube.

Pepsin, once glorified by laboratory workers and welcomed as a cure-all by practitioners, is fast drifting to well-merited oblivion. The free use of opium of the days of Trousseau has given place to alkalies, atropia, or some such substitute as eumydrin. The use of emetics is limited to certain well-known emergencies, and the vicious, continued, and habitual administration of cathar-

tics has been in great part replaced by rational dietetic measures, exercise, and massage, or, in the case of chronic appendicitis, by operative procedure.

Chronic constipation, the almost constant attendant and frequent cause of gastric ailments, has been divided into two widely differing forms, and to each has been assigned an effective therapy.

Three therapeutic facts have been impressed upon me as a result of years of observation, namely, that *rest, hospital care, and rational diet* are the best therapeutic agents in nearly all gastric ailments, and that without these the treatment of many gastric lesions of the nervous type and gastric ulcers must yield indifferent or deplorable results, and, further, that *three-fourths of the functional cases encountered are due to poor nutrition and are usually kept active or smouldering by chronic starvation*.

Those of us who see many cases of nervous dyspepsia need no DuBois to picture the good results of suggestion in their treatment, and, contrary to his teaching, I believe that a thorough examination, the use of the stomach-tube, and various other measures lay an excellent foundation for the necessary treatment and re-inforce psychotherapy. Proper control, hospital care, and intelligent coöperation on the part of the patient reduces the surgical cases to an inconsiderable fraction.

We have, then, a goodly number of conditions which may readily mislead as to the causative factor, yet most will be excluded by thoroughgoing and, if necessary, repeated examinations, without which operation would seem wholly unjustifiable.

To the surgical side belong early cases of carcinoma if the patient so elects knowing the facts, so also cases of organic stenosis, even if benign, but not until these have had a trial with medical means.

So also in cases like ulcer with or without an absolute diagnosis, medical treatment in most instances offers almost immediate relief, as low a mortality, and a larger period of symptom immunity than has as yet been proven for the surgical side.

In this connection I may add that the mortality of ulcer under medical treatment of the proper kind and amongst that class who are able to pay for surgery, is doubtless surprisingly small. I have seen in my own practice nothing like the mortality reported from the public clinics. Of course, figures representing ambulant treatment should be cast into outer darkness. Hence I feel that as regards ulcer cases no reason exists for operation prior to a thoroughgoing medical treatment, unless there be stenosis, troublesome adhesions, or actual perforation. For years I have

insisted upon absolute rest in every case, corrected any existing acidity with alkalies, and the use of olive oil, and used, instead of the nitrogenous diet formerly advised, frequent small feedings, consisting chiefly of milk and cream and the supercooked starches in semifluid form.

Instead of the primary rectal feeding so generally advised, which is often futile because of the acid secretion which it promotes in the stomach, I have usually used for a similar term actual or approximate starvation or far more often, systematic feeding from the start.

The only patients referred to the surgeon have been those associated with obstruction or adhesion, and the results of treatment have been such as to justify this course. The surgery of the stomach threatened for a time to go beyond everything wise and conservative because of the marvelously developed technic and low mortality, but, thanks to some of our best surgeons, and in no small measure to the men of our own state, a better attitude now exists, and I predict that as modern therapeutic resources other than surgery are better appreciated this conservatism will increase.

The present status of gastro-enterostomy leaves little to be desired on the side of technic and immediate mortality, but lacks everything in the line of statistics of the sort that test the value and determine the worth and permanence of a radical procedure. The bad results are constantly appearing before the internalists in increasing numbers, and we must realize that immediate mortality or results reported after a few months cut little figure in determining the worth of an operation, but that its effect after many years have elapsed must be the ultimate standard in medicine and surgery alike.

That such statistics will be forthcoming I do not doubt, and I believe that in the near future medicine will justly claim as her own a large proportion of the cases still considered operative.

The internalist has learned much from the surgeon, and I yield to no man in love for surgery and admiration for the men who have brought it to its present state of technical perfection. I admire the enthusiasm and progressive spirit which has placed America in the van of surgical progress, but, after all, *the real and vital question is not of method or technic, but of results for the sick man*, and in this aside from mortality, permanence of relief must be considered and indeed relative discomfort, actual pain, and secondary developments.

The results obtained by the best men are not those of the average man who would follow the brilliant leaders. As between the haphazard ambulatory treatment of the ulcer patient and surgery of the best type, I should unhesitatingly choose the latter with all its unproven results;

but as between the modern medical treatment, which recognizes the value of rest and nutrition, and surgery, the former should prevail.

Above everything let us have in surgery, no less than in medicine, a greater dependence upon proven diagnostic methods and the effects of preliminary medical treatment and less of rapid fire diagnoses or hasty exploratory incisions, which may, as often happens in this connection, show no visible or tangible lesions and terminate in blind surgical performance or a closure of the wound. *The element of mere suspicion has been too large a factor in the surgery of the stomach.*

I have no fear for the future, for our surgical work is for the most part in the hands of men characterized by absolute honesty and unselfishness,—men to whom the internalist owes an everlasting debt of gratitude for the light thrown upon the lesions of the gall-bladder and appendix, to whom he must constantly turn for necessary explorations, and of whom he may expect right action based upon sound judgment when gastric surgery finds itself.

Huxley declared that the first commandment of science is the golden rule of Descartes, which admonishes us to give unqualified assent to no propositions but those the truth of which is so clear and distinct that they cannot be doubted. To the check imposed by this scientific scepticism, this "consecration and enthronement of doubt," we may safely leave the future of this department of scientific medicine.

TO DR. Z. G. HARRINGTON*

BY HELEN HUGHES, M. D.
MANKATO, MINN.

In olden days when a man's fair deed
The praise of a grateful people won,
They thought it was meet to lay at his feet
The best that their head or their hand had done.

So my heart would sing, tho the words come slow,
A song for the feast of your "Harvest Home";
For tonight the ears of fifty years
Old Time to lay at your feet has come.

And it is not power, or pride, or fame
That he brings you bound in a golden sheaf,
But the race well run and the duty done,
And the kindly word in the hour of grief.

Five decades on guard at duty's call,
I see you come down the lane of years,
With your sense and skill and your right good will,
And your cool, clear head amid doubts and fears.

How grateful your hand to the aching head,
And gentle your touch to the wounded part,
And when the soul was the seat of dole,
How wise were your words to the troubled heart.

And well when the clouds took a fringe of light,
Could you rejoice in another's joy,
And their cares beguile with your friendly smile,
Old man, with the heart of a boy.

*Read at Mankato at the celebration of his fifty years in the practice of medicine.

THE COMPULSORY EDUCATION OF TUBERCULAR SCHOOL CHILDREN IN STATE INSTITUTIONS COMBINING EDUCATIONAL AND SANATORIAL FEATURES*

By F. M. CRAIN, M. D.

REDFIELD, SOUTH DAKOTA

So far as I am aware, this subject has never been presented to the medical profession. I am a little surprised that this feature of the subject, the control and the prevention of the spread of tuberculosis, has not engrossed the attention of medical men, especially in the Eastern states, where well-organized efforts to prevent the spread of this disease have been in operation for some time. But when we consider the necessary expense required to successfully establish institutions of this nature, and the ignorance of the public as to the necessity of organized effort and of plenty of money to pay the expenses of institutions and their maintenance for the benefit of those unfortunate children who, early in life, have contracted tuberculosis, and who, if left to attend our public schools without restrictions, are a constant source of danger of infecting others, where new cases are being added to the great army of tuberculosis victims, we can readily understand why this feature of the subject has not been considered before this.

I think we can agree that if this idea could be carried out, and every child of school age be compelled to attend institutions on the line I have suggested, under the supervision of a conscientious physician, with full power to enforce strict regulations, it would be the best means of educating the public on matters pertaining to this dreaded disease.

The success of our efforts in preventing, controlling, and treating tuberculosis, depends on the education of the general public, and every method to educate them will aid us in our efforts.

Prior to the discovery of the bacilli of tuberculosis by Koch, in 1883, tuberculosis was considered a hereditary disease, and the idea of its being contagious was far remote from the established opinions of the medical profession. In the light of our present knowledge of the etiology of tuberculosis, there is no more interesting chapter in the history of medicine than that pertaining to this disease. Is it not a little strange that there was not some suspicion of the contagious character of tuberculosis prior to 1880, since we often found whole families suffering from the disease? Flint, in his work on practice, published in 1868, gives a history of eight in one family dying from tuberculosis in five years.

Owing to our present knowledge of the etiology of tuberculosis and the improved methods of handling these cases, such a high rate of mortality is now unheard of; but the frequency with which whole families were exterminated by this disease and the hopelessness of remedial measures prompted the laity to regard tubercular victims doomed to a lingering death.

I cannot better describe the prevailing opinion of the public, of the hopelessness of tubercular patients, existing prior to 1880 than to quote from the pen of America's great poet of nature, William Cullen Bryant, who wrote:

Aye, thou art for the grave; thy glances shine
Too brightly to last long; another Spring
Shall deck her for man's eyes, but not for thine,
Sealed in a sleep which knows no waking.
The fields for thee have no medicinal leaf,
And the vexed ore no mineral of power;
And they who love thee, wait in anxious grief
Till the slow plague shall bring the fatal hour.

With Koch's valuable discovery the traditions and opinions of the profession existing for centuries, underwent a revision so complete and radical that only those of our profession who diligently perused the medical literature and kept pace with the evolution of the germ theory of disease, could find themselves in sympathy with it. Many physicians were skeptical and were slow to adopt new ideas so opposite to the prevailing opinion, consequently the war on tuberculosis could not be waged with vigor until the profession became of one mind as to the cause, and could understand that the disease was not only preventable but curable.

The profession is now united as to the cause of tuberculosis and the necessity of a united effort on the part of medical men, with the co-operation of federal, state, and municipal government, and the necessary appropriation of the people's money to establish sanatoria and pay the expenses of boards of health. In making war on this disease, the public must be educated as to the nature of tuberculosis and the methods of prevention and cure. They must be satisfied that the money appropriated for this purpose is economically expended, and that the results justify the expenditure.

Without a systematic education of the laity, thus securing their coöperation, our professional efforts will fall far short in results to be hoped

*Read before the South Dakota State Medical Association, May 29 and 30, 1907.

for. When we consider how universally distributed throughout the globe is this disease, attacking, as it does, the human family irrespective of age, color, or position in life, we are forced to regard the war on tuberculosis as an international contest, rather than a local one, for no country exists where tuberculosis is not found, and no branch of the human family is immune. Other countries besides the United States realize the importance of legislation on this subject; in fact, some of the European nations have taken the lead in the crusade against tuberculosis, and their regulations are far in advance of those of our Eastern states, where efforts to check the progress of this disease have been in operation for some time.

A large percentage of those dying from the disease die in early life, many of them before they reach the age of adolescence, thereby depriving their respective communities of the commercial value of a human life; but is the commercial value of a human life the only incentive to stimulate us in our efforts to stay the ruthless hand of death?

The Divinity that spoke into existence man in the image of his Creator, designed that man should render some equivalent for blessings received from nature. Disease and pathological conditions were not born with the human family: they are the results of improper modes of living. In short, disease is the result of violation of the laws of nature. It is not given to man to know all of nature's laws, but when he is conversant with laws, the violation of which causes disease, he owes it to the community in which he lives to so enlighten the people that they may be able to escape the penalty of violation.

The charitable and penal institutions of our land are an indication of the philanthropic spirit of our people, and it only remains for a general education of the nature of tuberculosis to secure their assistance for the struggle we have inaugurated against the great white plague that has held sway and devastated the human family for ages.

For the fiscal year ending June 30, 1906, there were 3,644 deaths in South Dakota; of this number 270 died from tuberculosis, or a little more than 7 per cent. The census of 1905 gives us a population of 436,252. If the same proportion of this number have tuberculosis, there would now be in South Dakota 32,273 persons suffering from this disease. There were 50 deaths from tuberculosis in the state, among children of school age; the same percentage of our population would give us 613 tubercular school children. These 613 unfortunate children are entitled to receive an education, and the question for us to solve is how are we to educate them without the danger of infecting healthy children?

So far as I am aware, there have been no restrictions on tubercular children attending the public schools in South Dakota. This unfortunate state of affairs is to be greatly regretted, for no one conversant with the modes of infection can help but regard this as a most fruitful means of spreading the disease, since many of the teachers are as ignorant as the pupils as to the dangers of infection and the methods of prevention.

Permit me to relate a case as an illustration of the carelessness of our authorities in enforcing regulations to prevent infection in our public schools. During the past winter I received from a physician in an adjoining county a specimen of sputum from a young lady employed as a teacher in the public schools, with the request that I examine it for tubercle bacilli. I made the required examination and found the specimen loaded with the bacilli. The doctor immediately took steps to have the young lady relieved from her contract, but as the authorities seemed to think they could not terminate her contract before the time of expiration, she was permitted to continue her school work. Such flagrant violation of the common well-known methods of prevention of contagious diseases, can be considered no less than criminal, and if there are no specific laws authorizing our officials to terminate a teacher's contract when she is found to be suffering from a contagious disease, the next legislature should see that effective laws are enacted giving our school officers unlimited authority to regulate cases of this kind.

South Dakota, among the foremost states in charitable, penal, and educational institutions, does not occupy the position she should occupy on the subject of the care and treatment of tubercular cases. Many of the states have separate wards in their state institutions whereby tubercular victims can be isolated and receive proper care and treatment. Among such states we find California, Connecticut, the District of Columbia, Delaware, Florida, Indiana, Kentucky, Louisiana, Maine, Maryland, Minnesota, Mississippi, New York, Ohio, Rhode Island, South Carolina, Vermont, and Virginia.

Many of our states have sanatoria devoted exclusively to the treatment and care of tubercular patients. These institutions have been in operation a sufficient length of time to demonstrate that many cases are curable and that in others the disease can be held in a dormant condition and the victim permitted to live and enjoy a good degree of health; but the great advantage of these institutions is the education of the inmates and, through them, the public in general, as to the methods of prevention, every ounce of which is worth a pound of cure.

Being ignorant of what South Dakota was doing in her state institutions, if anything, in the management and care of tubercular inmates,

I addressed a communication to Dr. L. C. Mead, Superintendent of the South Dakota Insane Asylum, asking information on the subject, and received the following reply:

I have your letter of recent date inquiring in regard to the prevalence of tuberculosis at the State Hospital for the Insane.

Answering your questions categorically I will say:

1. There are this day 429 men and 246 women, a total of 675, in the Hospital.

2. Of these, nine women are suffering from pulmonary tuberculosis. There are two women suspects. No men are suffering from pulmonary tuberculosis. There are three men suspects.

3. One woman included in the above has tuberculosis of the bowels.

4. During two years last passed, 34 men and 21 women died. Of these 6 men and 8 women suffered from tuberculosis.

5. There is no special ward at the State Hospital for tubercular cases. An ample pavilion for such patients will be built in the near future, in which we hope to embody every structural feature found to be of value in the treatment of tubercular conditions. At present we have no means of separating them, except in the rooms adjoining the regular wards. This segregation is far from satisfactory and probably is one of the reasons for the greater prevalence of tuberculosis among the women than the men, as the women patients are more seriously crowded at the present time than are the men. In addition to this, for two summers we have had a large number of men living in tents, all tubercular patients having been taken outside for the summer.

Those classified as suspects are such patients as appear to have been running down physically, and in whom, at some time or other, there has been a more or less regular afternoon elevation of temperature. Patients suffering from pulmonary tuberculosis among the insane do not cough so much as the sane, and rarely expectorate. An early positive diagnosis is, on this account, more difficult than it is among the sane. Where a patient is losing appetite and flesh we make careful observations of temperature, and a slight elevation in the afternoon, even though there may be no other signs of tuberculosis, causes us to class them as suspects. Tuberculosis is the bane of all institutions where people of lowered vitality are assembled. The diminished power of resistance and the constant opportunities for infection render the depleted inmates exceedingly liable to this infection.

In the deaths where tuberculosis has been found to be present, we do not wish to be understood in every instance as assigning that as the cause of death. Our people when suffering from tubercular infection sometimes die of other causes.

I sincerely trust that this information will be satisfactory. If not, we will try to answer any other inquiries you may see fit to make.

I am glad to know that you are preparing a paper on this subject and that you have turned your attention to the State Hospital, for we expect to ask of the next legislature a liberal appropriation for a pavilion to which we can take all of the tubercular patients, and we wish it amply large to enable us to properly classify them according to their mental condition. I shall be interested in listening to your paper.

That there is an imperative demand on state legislatures to provide state institutions with sufficient appropriations to enable them to properly treat and care for tubercular inmates, is beyond question. The great and prosperous young

state of South Dakota must not be found wanting in her devotion to these unfortunate victims. If there is a demand on our legislatures for financial aid in procuring special care and treatment for inmates confined in our charitable and penal institutions, many of them life victims, what must be the demand on our federal, state, and municipal governments for providing an education for our tubercular school children, many of whom can be cured by proper environment and education?

Is there a subject affecting the welfare of a nation more to be zealously considered than the education and health of the young, on whose shoulders the duties of the nation must soon rest? Can we better appropriate a small percentage of our revenues annually than to divert them to a fund for the education of tubercular school children, in institutions under the direct supervision of an intelligent and conscientious physician, making the educational features secondary to the sanitorial?

Those of us who have practiced medicine in South Dakota for twenty years or more, can recall how few cases we had prior to 1890. Since then the number of cases has rapidly increased. Why this rapid increase? Well, we might inquire, Why not a greater increase? for there has been no systematic effort to prevent infection, and no education of the public as to the nature of the disease or methods of prevention and cure.

Upon the medical profession must rest the responsibility of enlightening the public. The profession, true to her instincts and traditions, is ever ready to sacrifice self-interests for the welfare of the public, but to accomplish much we must have financial aid.

The efforts being made to establish a federal cabinet office, with a Secretary of Public Health as a cabinet officer, is a move in the right direction, and if successful will do much to systematize the work.

Referring more directly to the subject of state schools for the education of tubercular school children for the state of South Dakota, I am aware, on account of the large expense necessary to provide buildings and equip them for properly educating and treating these unfortunate children, the subject will not meet with popular approval, but I hold it is not too early to begin the slow process of educating the public to the necessity of a vigorous campaign against the spreading of the disease, and of the financial part the state must take if success results.

South Dakota is taxed for the support of four normal colleges, and at every session our legislature is called upon by one or all of those colleges for appropriations for new buildings, and

equipment. Aside from four normal colleges, we have a state university, an agricultural college, a school of mines, a reform school, a school for the blind, a school for the feeble-minded, and a school for deaf mutes. Added to this long list of state educational institutions, we have four sectarian colleges, in college work equal to our state institutions. We have several schools doing academic work and a fine system of high schools, so that in general educational advantages South Dakota is well provided.

Could not two or three of our normal colleges be converted into schools for the education and treatment of tubercular school children, with better returns to our young state than to continue them as normal colleges, and with but a small advance in the cost of maintaining them?

I am aware that this suggestion will not strike a responsive chord in the immediate vicinity of normal colleges, neither will the establishment of more educational institutions necessitating large appropriations of the people's funds be regarded with favor until the general public shall have become thoroughly convinced of the necessity of educational institutions of this nature.

It must be apparent that the state of South Dakota has no use for more than two normal colleges, and that the general educational interests of our state would be improved if we had fewer colleges to support, with increased efficiency of those remaining.

We have in my own town, Redfield, the School of Feeble-minded where those unfortunate people can have a comfortable home and where children susceptible to mental development receive mental training, and it is interesting to note the improvements of the inmates, both mental and physical; but none of the inmates will ever be self-supporting or stable citizens.

Not so with tubercular children, for many of them are exceptionally bright mentally, and for the state to neglect to provide education and treatment when experience has taught us that education, with proper environment and correct methods of living, essential for the treatment and cure of tuberculosis, is not only unjust to tubercular children, but eminently so to healthy children who have no predisposition or tendency towards this disease.

South Dakota cannot well afford to be behind her sister states in efforts to regulate the sources of infection. Is it not time that the vigorous efforts of our profession be made to educate the public, and especially teachers of our public schools and school officers, to the dangers of infection and the fundamental principles of prevention and cure? With a reorganization of the state and county boards of health, with especial reference to enlightening the public on

this subject, and with the united efforts of the whole profession, we can accomplish much for the benefit of the human family.

DISCUSSION

DR. E. KLAIVENESS (Sioux Falls): I have listened to Dr. Crain's paper with a great deal of interest, for we have in my home country (Norway) long since discharged our duty to these small sufferers by establishing and maintaining hospitals exclusively for them. A few words about this work will no doubt interest you. It must be fifteen years since Norway decided to erect a hospital for tubercular and scrofulous children. It was built along side of the coast in the eastern part of Norway. Later on another was built for the western part, also on the coast. These institutions are known and spoken of as coast hospitals.

The government provides every year a certain amount for free beds (I believe 10,000 kroner), with the understanding that the expense shall not exceed one kroner a day for the sick inmates. This small operating expense could not, however, be kept in force if it were not for the various legacies given to these institutions from wealthy people.

Now these hospitals are doing a great amount of good. Later on, as you may know, the tubercular and consumptive people from among the adults are also taken care of in this way. As soon as they become dangerous to the public health, either from deficient care at home or because of an advanced state of the disease, with more chances for contaminating members of their family, they are forthwith, by order of the local board of health, committed to any one of the many national sanatoria for consumptives built and maintained by the government.

This compulsory commitment created quite a stir when first enacted into law, but little by little the people have come to realize what good such law would work for the nation; besides, they had the experience of a similar law and its beneficial result as regards the diminution of the lepers in Norway.

While it is yet early to prove in plain figures that the number of consumptives has materially decreased in Norway, it is safe to say that these sanatoria are already exercising a powerful influence as a means of educating the people in the better understanding of tuberculosis.

DR. D. W. CRAIG (Sioux Falls): There was never any great revolution or change in public policy that came suddenly. They occur gradually and must be worked out. So it is with these tubercular problems. We must do the best we can, and while they say we cannot expect much of South Dakota, I think, if we had the determination, we could do as well as any other state.

We can start an institution. It will be almost self-maintaining, and we shall reap a great advantage by beginning early, while our population is small, and keeping these tubercular cases from the healthy people, and from multiplying in the state, while, if we wait, the cases will multiply and we shall have a larger percentage after a while. There is no time like the present, so I would like to urge this right here, if it is possible to do so, to start a move for such a home.

DR. S. A. BROWN (Sioux Falls): I would like to move that this subject, if it is in accordance with the rules and regulations of the Association, be referred to the House of Delegates, with instructions that at the next annual meeting a report and actual bill be presented to the legislature, providing for this tubercular subject, the hospital treatment of the tubercular, and for the exclusion of children in the early stage from the public schools, and the exclusion of teachers in any

stage from pursuing their vocation in this state. It seems to me that the House of Delegates can get together easier than the entire Association.

We have another election next year, and we ought to be in a position to take up this matter then, and I am satisfied that if the members of this Association take an interest in it there will be no great difficulty in getting the people to agree to it.

As to the cost of it: it is perfectly foolish to stop for a moment for that. Anything will cost us more than that. It is something extremely important.

The matter of tuberculosis is more important to us

than it is to other states of this Union, and if we begin now for a great work, as our population becomes denser and we need it more than we do at this time, it will be of great benefit. Perhaps it may be wrong to make a motion to refer this to that body, but I move to make it the subject of action next year.

DR. C. J. LAVERY (Fort Pierre): I offer an amendment to Dr. Brown's motion, that this matter be referred to the Committee on Public Policy, with instructions to present the matter, with their recommendations, at the next regular meeting for disposition at that time.

ACCESSORY SINUSES OF THE NOSE*

BY H. H. FRUDENFELD, M. D.

MADISON, S. D.

In contemplating the subject which I am presenting today, my idea was not to write a deep or scientific article or to present any new facts; nor do I intend to take into consideration those cases of sinus development which can only be treated by the most radical procedures.

The sinuses or spaces opening into the nose are the two frontal sinuses, the two maxillary sinuses, or the antra of Highmore, the various ethmoid cells, and the sphenoid sinus. As we know, the frontal sinuses open into the superior nasal cavity through the nasal ducts, or infundibula, and when these ducts remain patent there is sufficient drainage to prevent serious conditions.

The maxillary sinuses do not have an opening as favorable for drainage, as the ostium is located higher up than the floor of this cavity, opening into the middle meatus of the nose. The ethmoid cells usually communicate with each other and with the nasal cavity, and often one or more of these becomes infected on account of swelling of the middle turbinate and the interference with drainage.

The sphenoid sinus has its opening in the posterior part of the middle meatus and is not so commonly involved.

There has not only been a steady and rapid progress in the various treatments of the sinuses, but the diagnosis has also been much improved. What have been termed "catarrhal" symptoms and "catarrh of the nose"—vague terms—have been traced to sinus involvements. Too much credit cannot be given to many of the scientific men who, by hard research and study and extensive clinical observations, have helped to develop the sinus technic of today. But we must take into consideration the fact that in this line, as well as in all special studies in medicine and surgery, these enthusiasts and sinus specialists, as

we may term them, are apt to become over-enthusiastic.

There is probably no place in the world where more sinus troubles are treated than in Hajek's clinic in Vienna, and the technic and skill displayed in diagnosis, treatment, and operations, are certainly unexcelled. I do not want to be considered too forward, but my opinion is that many of the most radical operations I have witnessed in this clinic could be replaced with more conservative measures. In many chronic sinus troubles there is certainly no harm done in first trying as conservative means as possible.

I have read no article which brings out my views more than does a paper by Dr. Robertson of Chicago, in the *Laryngoscope* of November, 1905. Dr. Max Holle of Berlin is also a staunch advocate of operations by the internal route. In a paper in the last February number of the *Laryngoscope*, he ably presents his methods and experiences.

While the intranasal operation may be, in some ways, harder for the surgeon, it is certainly more satisfactory to the patient afterwards, from a cosmetic standpoint.

The more radical an operation is, the more does it destroy; and a treatment with a minimum of destruction and danger, and with a maximum of efficient results, is desired.

We must also take into consideration the fact that the majority of patients prefer to have operations done under a local anesthetic, and the operator also prefers this in less radical measures. A conservative operation interferes in no way with a more radical one should results, or lack of results, make more active means necessary.

External operations always require a general anesthetic, of course, and a depression usually results at the site of the operation. This is remedied as much as possible by paraffin injections,

*Read before the South Dakota State Medical Association, May 29 and 30, 1907.

but often imperfectly and not permanently. Often it is desirable to maintain for a long while an opening from the involved sinus, and this is much less objectionable from every standpoint where the opening is internal.

It is a well verified fact that this locality, with its pure air, witnesses less accessory nasal involvements than does the lower altitude and dust- and smoke-laden air of, for instance, Chicago. And it is also undoubtedly true that where we do find a sinus involved here less heroic measures are needed to enable nature to restore the diseased cavity than would be required in a lower, damper, or less pure atmosphere.

While my experience cannot be considered a criterion, yet I have found that the frontal sinuses are the most commonly involved, then the maxillary antra, the ethmoidal cells, and, lastly, the sphenoidal sinus. I will not dwell on the symptoms of the disease of any of these cavities here. The treatment I will briefly outline.

In examining a case of acute frontal sinus inflammation one will invariably find the anterior end of the middle turbinate much congested and swollen. The object, then, is to relieve this and adjacent swelling, and to endeavor to increase or restore the caliber of the nasofrontal duct. I first use a one per cent solution of cocaine, sprayed with a long, slender tip, on and about the anterior end of the middle turbinate and into the anterior-superior nasal space. Then in a few moments I spray adrenalin solution in a like manner. This is repeated alternately several times, and when the astringent and anesthetising effects are apparent, a twelve per cent or stronger solution of menthol is sprayed through a curved tip and with considerable air-pressure. The above may be preceded by a hot, alkaline nasal douche should much secretion require. After the menthol spray the Politzer bag may also be used in an endeavor to force medicated vapor into the sinuses.

If a maxillary sinus is involved, the second molar tooth may be drawn and the antrum penetrated by the electric drill with ease, and temporary drainage established if desired. Most acute inflammations of the two named sinuses can be relieved by these simple methods. Appropriate general treatment should be looked after, and thorough elimination is an important adjunct. Some of the acetanilid preparations may be given for relief. I have found pyramidon, which I saw much used in the Vienna clinics, very efficient in relieving accompanying infra- or supra-orbital neuritis.

Should the patient be subject to other attacks of the frontal sinus, for instance, a thorough removal of the anterior end of the middle turbinate is advisable. I have a number of cases that have been cured by this simple procedure, which re-

lieves the hypertrophy existing at the inferior end of the nasofrontal duct and establishes an increase in its size.

In a maxillary sinus inflammation with pus, however, it is best to establish an artificial opening near the floor of the antrum opening into the inferior-anterior nasal space. Previous to this procedure the anterior end (about one-third) of the lower turbinate should be entirely removed, and the outer nasal wall can be punctured with a drill or trocar and then amply enlarged with a bone-cutting forceps. The cavity may then be curetted, packed, or irrigated as required, though of course a thorough curettement cannot be so well done through this opening.

An efficient aid in the temporary relief of acute sinusitis is the Pyncheon vacuum aspirator, by means of which a vacuum may be produced in the nasal cavity, thus tending to draw secretions out of the sinuses. According to Halle of Berlin this is nature's method constantly induced by normal respiration.

It is a well-known fact that many acute catarrhal inflammations of the sinuses recover spontaneously, especially in their early attacks.

These are the kind of cases that demand free and normal nasal respiration, which can be accomplished only by the absence of all hypertrophies, septal spurs, and a straight nasal septum. To make normal, then, an abnormal nasal cavity is the best prophylactic and curative treatment for accessory nasal sinus troubles.

DISCUSSION

DR. E. F. REAMER (Mitchell): My experience in these diseases has not been very large, although I have had a number of cases. My experience tallies with that of the writer of the paper in using simple remedies at first, because I find that a large majority of these cases will get well of themselves by keeping the nose open and free as possible. I spray with cocaine and adrenalin solution or use it on a probe, and enter the opening as far as I can; and by waiting for a few moments often we get a response at once. I recall a case of infection of the antrum of Highmore that had been running for a number of months. I wanted to operate but could not get the patient's consent. She got well by simply keeping it sprayed out clean. It did not return, as far as I know.

Another case I recall was a disease of the antrum through a decayed tooth, and of course we needed to get that tooth out and to get drainage. My experience is that if you keep a normal opening and if there are no decayed teeth, and the nose is kept clean, in the simple cases the majority will get well.

DR. WILLIAM R. MURRAY (Minneapolis): I do not know that I have a great deal to add to this paper, which covers the subject very thoroughly. This is a broad subject, and time will not permit me to go into details.

In regard to the acute involvement of the frontal sinus: fortunately, it is not as frequently encountered as the acute involvements of the other members of the anterior group of the nasal accessory sinuses. When it does occur it can often be relieved by establishing drainage intranasally, by probing and washing out the sinus, or by removing the anterior end of the middle

turbinate. However, when there are marked acute symptoms of obstruction present, such as severe pain, swelling, edema, exophthalmos, etc., it may be necessary to enter through the external wall and drain either externally or through the nasofrontal duct.

The anterior ethmoidal cells are very frequently involved, as is evidenced by the feeling of fullness and pressure or of dull pain during attacks of acute coryza; and in these cases the use of the atomizer and the shrinkage of the tissues, in the region of the middle turbinate, are usually all that is necessary to give relief. When pus is present within the ethmoidal cells, and removal of the anterior end of the middle turbinate does not give sufficient drainage to effect a cure, it may be necessary to break down the ethmoidal cells by means of the curette. These empyemas of the ethmoidal cells, especially when they have become chronic, may be exceedingly stubborn and require thorough and extensive curettement of all the cells involved.

I would mention the intimate relationship of the frontal sinus, anterior ethmoidal cells, and maxillary sinus, and that they may be all jointly involved.

The maxillary sinus is probably the most frequently involved of all the nasal sinuses, and an acute empyema of this sinus is usually quickly relieved by irrigation of the antrum, preferably through the inferior meatus of the nose. In these cases we must determine, first, the source of infection. If of dental origin, the offending tooth must be removed; if of intranasal origin, the predisposing cause must be removed. In draining and irrigating the antrum, I have abandoned the alveolar

route in favor of the intranasal method of operating.

I would call your attention to the fact that we may have an empyema of the antrum without any subjective symptoms on the part of the patient. A few hours before I left my office yesterday afternoon, I washed out an antrum that was full of pus, and yet the patient had had no pain or discomfort in the region of the antrum and had no discharge from the nose. The antrum was dark on transillumination, and irrigation of the sinus through the inferior meatus showed it to be full of pus. These cases usually yield quickly to treatment, sometimes requiring but one or two irrigations. I usually use a warm boric solution for irrigation and follow with the injection, through the canula, of a 25 per cent solution of argyrol. The creation of a negative pressure within the nostrils by means of the suction-syringe is of value in the treatment of these cases.

DR. FRUDENFELD (Essayist): I wish to thank Dr. Murray and others for their comments on my brief paper.

I do not agree with those who put forth the claim that the treatment of sinus troubles will effect a cure for hay-fever. This is too complex a disease to be more than relieved by any such treatment. To treat any sinus difficulty that may exist is only in line with the teaching to overcome all abnormalities whenever possible.

The removal of adenoids certainly helps nasal drainage and respiration, and is indicated in sinus difficulties; in fact, as stated in closing my paper, all nasal deformities should be overcome.

THE CONTROL OF SMALLPOX

By H. M. BRACKEN, M. D.

Secretary and Executive Officer of the Minnesota State Board of Health

ST. PAUL

At a meeting of the Minnesota State Board of Health, held October 9, 1906, the following recommendation was adopted:

It having been established that smallpox will not occur in a well-vaccinated community, and that all attempts to restrain this disease in a community not protected by vaccination, by means of quarantine, will fail; that quarantine in a well-vaccinated community is unnecessary; that attempts to control the spread of smallpox by means of quarantine are unscientific, irrational, expensive, and misleading; that, in laying down strict rules for the quarantine of smallpox, sanitary authorities are favoring unscientific and illogical methods for its control and are conveying false ideas as to the safety of the public, the Minnesota State Board of Health advises that after January 1, 1908, further attempts to control smallpox by means of quarantine shall be abandoned.

The reason for postponing action on this recommendation until January 1, 1908, was that time might be given those who wished so to do to provide for their own and others' protection through vaccination.

On August 6, 1907, the board, following out the above recommendation, formulated the following regulations:

SMALLPOX REGULATIONS*

11. The local health officer having knowledge of, or having reason to suspect, the existence of smallpox, shall investigate, and at once place *upon the house where smallpox exists a sign setting forth the facts. This sign is to serve only as a warning to those who may wish to avoid the house, and not as an indication of quarantine. When the attending physician considers a smallpox patient as having recovered he shall report the fact in writing to the local health officer, who shall thereupon remove the warning card from the house. The patient must not leave the house until after the removal of the warning card.*

12. The apartments occupied by a smallpox patient shall be deemed infected, and when vacated by death, removal, or recovery of the patient shall, together with their contents, be thoroughly disinfected under the supervision of the local health officer.

13. Every physician shall immediately report to the local health officer, in writing, the name of every smallpox patient under his care, the state of his or her disease, and his or her place of residence. A report must be made for each case as it occurs in a family or household.

14. Every physician shall report, in writing, to the local health officer the death of any smallpox patient under his care within twelve (12) hours thereafter.

*New matter is printed in italics.

15. The local health officer of any city, village or township must report *within twenty-four hours* to the secretary of the Minnesota State Board of Health all cases of smallpox occurring within his jurisdiction, and the date of removal of the warning card.

The old regulations* are as follows:

11. The local health officer having knowledge of or having reason to suspect the existence of smallpox shall investigate, *if necessary*, and shall at once place under quarantine all smallpox patients and those having the care of or coming in contact with such patients, except the attending physician, health officer, sanitary inspector, or, in case of death, a licensed embalmer.

The quarantine period for smallpox shall not be less than four weeks and may be longer. Quarantine must not be released until the health officer has satisfied himself that there is no further danger of infection from the patient. The quarantine must not be raised until four weeks or more, as the case may be, after the appearance of the last case in such a family or household.

12. *The local health officer shall keep all unvaccinated people known to have been exposed to a case of smallpox under strict supervision for a period of three weeks from the date of last exposure. Non-vaccinated individuals in a house quarantined for smallpox shall be kept under quarantine for a period of two weeks beyond that required for the last smallpox case, and after the disinfection of the house.*

13. *Individuals found in a house with a smallpox patient and who show evidence of a recent successful vaccination, or will submit to vaccination within forty-eight (48) hours after first exposure, may be released from quarantine after a thorough disinfection of their person and clothing. Such individuals must not be permitted to return to the quarantined house.*

14. The apartments occupied by a smallpox patient shall be deemed infected, and when vacated by death or removal of the patient from quarantine shall, together with their contents, be thoroughly disinfected under the supervision of the local health officer. *All persons having occupied such apartments during the quarantine period must have their clothing disinfected and take a disinfecting bath before being released from quarantine. All disinfection prescribed in this regulation shall be a part of the control of the disease.*

15. *No milk, butter or other dairy product shall be sold or given to any party, or delivered at any creamery or butter factory, from a house quarantined because of the presence of smallpox therein.*

16. Every physician shall immediately report to the local health officer, in writing, the name of every patient under his care having smallpox, the state of his or her disease, and his or her place of dwelling. A report must be made for each case as it occurs in a family or household.

17. Every physician shall report, in writing, to the local health officer, the death of any smallpox patient under his care, within twelve (12) hours thereafter.

18. The local health officer of any city, village or township must report *immediately* to the secretary of the Minnesota State Board of Health all cases of smallpox occurring within his jurisdiction.

A regulation which states in part that "any person infected with smallpox residing in a common lodging house, boarding house, or hotel shall be removed therefrom under the supervision of the local health officer to a suitable hospital or place of quarantine," and another regulation which states in part that "no person shall let for hire, or cause or permit anyone to occupy, prem-

ises previously occupied by persons ill with smallpox until such premises shall have been disinfected under the supervision of the local health officer according to the instructions of the Minnesota State Board of Health," are still in force.

Comparing the old and the new regulations it will be seen that Minnesota proposes to keep supervision over smallpox cases, but to remove restrictions that are demoralizing, difficult of enforcement, impracticable, and unnecessary.

Quarantine is an old-time method of trying to prevent the spread of disease. It is an evidence of helplessness, often of ignorance. Whenever the true cause of any disease becomes known attention should be directed to its prevention before it occurs, rather than wait for it to gain a foothold and then try to suppress it. This is well illustrated by the change of procedure that has taken place in dealing with yellow fever. Before the means of transmission of this disease was known, the quarantine methods used and attempts to control its spread were most rigid. Now, when the world knows that only a mosquito can transfer yellow fever from an infected individual to a healthy person, quarantine is practically abandoned, and attention directed to destroying mosquitos that are capable of transmitting yellow fever.

Conditions relating to smallpox are comparable with those relating to yellow fever, for we have in vaccination as thorough a means of controlling smallpox as we have in the destruction of certain mosquitos in the control of yellow fever. In neither of these diseases have we as yet convincing evidence as to their true cause, but we know how to prevent infection in both. With such knowledge quarantine is no longer necessary for either.

Quarantine to be effective must be of the shotgun type, and this should no longer be tolerated for either yellow fever or smallpox, for science has demonstrated that there are other more efficient and less demoralizing means of controlling both of these diseases. Even shotgun quarantine does not control all cases of either smallpox or yellow fever, as is shown by various epidemics in connection with both diseases, for the mild, unrecognized, and concealed cases are always on hand to evade the most rigid of quarantine methods.

I am sure that many leading sanitarians are not in sympathy with the present general methods in use for the control of smallpox. Sanitarians quickly demanded the abolition of the old-time methods of guarding against yellow fever when science pointed out the simpler means available for its control. Why should not a similar course be pursued in dealing with smallpox?

It is strange that with the teachings and demonstrations of one hundred years relative to the

*Matter dropped is printed in italics.

protection afforded by vaccination against smallpox, individuals and organized bodies are to be found antagonizing vaccination and demanding quarantine. It is almost inconceivable that intelligent citizens are to be found who prefer the leadership of these "faddists" to the teachings of scientists. It is hardly to be presumed that the Southern states and cities where yellow fever prevailed would demand the old-time protection by quarantine against this disease, since science has demonstrated both the inefficiency and needlessness of such—a quarantine that caused untold annoyance and financial demoralization. Yet this is exactly what the antivaccinationists are demanding in Minnesota, for they are asking a continuance of the old-time and inefficient quarantine against smallpox and are using every opportunity to criticise the Minnesota State Board of Health for promulgating its new smallpox regulations.

Undoubtedly, the true way to bring about the suppression of smallpox is through compulsory vaccination. The responsibility for the passage of compulsory vaccination laws rests with the people and their legislators, not with the medical profession or sanitarians. These latter should teach the doctrine of self-protection through vaccination, but with this their responsibility ceases for they are not law-makers.

In conjunction with the abolition of rigid quarantine as a means of controlling smallpox, state and municipalities should provide free vaccine of unquestionable quality and in addition free vaccination carried out by competent public vaccinators.

It is needless to enter into any argument in favor of vaccination as a protective measure, for the conscientious investigator will not have to go far to find proof of its efficiency. It is also needless to enter into any controversy with the antivaccinationists, for their statements are wild and misleading and not open to argument. It may not be amiss, however, to draw attention to a recent letter from Vienna under date of August 24, 1907,* and an editorial** upon the same. The letter states that many of the younger physicians (in Vienna) had never seen a case of smallpox, due to the care with which vaccination had been carried out, and that, while during the past ten years there had not been more than 22 cases of smallpox in the city, during the eight days previous to the writing of the letter, 55 cases had occurred. It stated that during the past three years the number of unvaccinated children had greatly increased, due to the action of the "conscientious objectors" to vaccination, and that these were now reaping the penalty of their objections. The letter from Vienna is *apropos*, for the antivaccinationists are at the present time filling their

journals with false statements concerning smallpox conditions in Germany and other countries where compulsory vaccination is in force.

INTERNATIONAL CONGRESS ON TUBERCULOSIS

WASHINGTON, D. C., SEPT. 21-OCT. 12, 1908.

Progress along all lines connected with the International Congress on Tuberculosis, which is to take place in Washington from Sept. 21 to Oct. 12, 1908, was shown by the reports presented at a meeting of the Committee of Arrangements, held in New York, Monday evening, Oct. 28.

The meeting was the first held since Dr. Flick, the chairman, returned from abroad, and his reports of his visits to the International Conference on Tuberculosis, in Vienna, and to the International Congress on Hygiene and Demography, in Berlin, were interesting features of the session. More than a thousand delegates were registered at Vienna, he said, and the gathering at Berlin was quite as large. The leading men in both associations are looking forward with a great deal of enthusiasm, Dr. Flick said, to the meeting in Washington, next year, and about four hundred of the members of the foreign organizations may be expected to attend the congress.

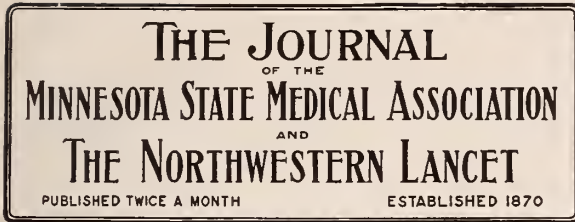
The Conference selected this country as its place of meeting in 1908 just as the Congress did two years ago. The Conference and the Congress are two distinct organizations. The International Conference on Tuberculosis meets every year and keeps up a continuous organization, with headquarters in Berlin. The International Congress on Tuberculosis meets only once in three years and does not maintain an international bureau in the intervals.

Dr. Flick stated that at the International Conference interest centered especially in the time-worn subject of the routes of invasion for the tubercle bacillus. It seems to have been demonstrated that the disease may be contracted by both the respiratory and the alimentary routes. Though this does not make us much wiser in a practical way, still it is somewhat comforting to know that the respiratory route is less important than it was once thought to be. On the other hand, that information is compensated by the importance of the alimentary route.

Dr. Fulton also reported that up to the date of the meeting, the governors of twenty-three states had lent official auspices to the Congress. This not only insures official representation so far as that many states are concerned, but it insures an active organization in each of these states, that will be interested in the Congress.

*Jour. of the A. M. A., Sept. 14, 1907, p. 952.

**Jour. of the A. M. A., Sept. 14, 1907, p. 946.



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BACK NUMBERS—WANTED AND
FURNISHED

So long as our supply holds out, we are always ready and glad to send to our subscribers back numbers of the JOURNAL-LANCET to complete their files, and now is the best time to get missing numbers for the past year.

We have a number of calls, which we cannot supply, for the following issues, and if any of our readers will supply them, they will be thankfully received by those who need them. If anyone can contribute one or more copies of such issues, please notify us by postal card, and we will send an envelope, with postage attached, so that the journals may be received without rolling or folding. Issues wanted by us: Jan. 1, March 1, and March 15, 1907.

THE MINNESOTA VALLEY MEDICAL
SOCIETY

The annual meeting of this pioneer district society occurred in Mankato Dec. 3, 1907. An unusually large number of physicians and surgeons were present, and every paper on the program was read and discussed.

An important feature of the meeting was a "Stomach Clinic" given by Dr. Frank Billings, of Chicago. The clinic was given in an informal manner, and the subjects were outlined

in the simple, common-sense way that is characteristic of Dr. Billings. The discussion by Dr. W. J. Mayo and Dr. J. E. Moore showed very clearly that the medical man and the surgeon are coming to a better understanding in the diagnosis and treatment of disorders of the stomach.

Another gratifying exposition of opinion was the recognition of the neurotic element in the individual and its relation to many of the so-called diseases of the stomach. Internalists and surgeons now believe that many stomach and other visceral defects are congenital, and their subsequent manifestations are due to altered states of the nervous system. Some day the neurologist will be invited to participate in the investigation of these trying cases; in fact, the time has nearly arrived when the internalist and surgeon will say to the neurologist: "These cases are largely, if not wholly, nervous, and we are only too ready to place them in their proper classification."

Dr. Emil Geist's paper on "Syphilis of the Bones" will appear in a later issue of the JOURNAL-LANCET.

Dr. Bjelland's paper on "Milk in Mankato," discussed the subject from the standpoint of the health officer.

Dr. J. H. Adair read an interesting paper on "The Man and the Prostate," in which he clearly and exhaustively told of the care of the prostate from a medical view-point; and his history of "catheter life" was an earnest and careful résumé of time and technic in the employment of a very useful instrument.

DEFECTS IN SCHOOL CHILDREN

Dr. Linsly R. Williams, of New York, in a paper published in the Journal of the A. M. A., makes a strong plea for the physical examination of school children. From March, 1905, to January, 1907, 134,000 children in the schools of New York City were examined for defects. The examinations were made for defects of hearing, vision, and nose and mouth deformities, with such superficial examination of the heart and lungs as could be done by loosening the clothing at the neck. The findings showed an enormous number of minor defects, as well as a considerable proportion of serious ones.

The percentage of children needing treatment is remarkably high, and if the defects be not removed, the child may become and continue dull, lethargic, lazy, stupid, and backward and at times recalcitrant, obstinate unmanageable and immoral. In many instances

where these last conditions have existed and have been alleviated, the child soon begins to assume a more normal aspect of physical and mental well-being.

The burden of responsibility for the presence or amelioration of these defects should be put upon the parents and not in any way be forced upon the teacher. Among truants the percentage of defects is very high. Out of one hundred examined 95 per cent were found with physical defects that interfered with the progress of the child. From March, 1905, to June, 1906, 97,543 children were examined, and of that number 64,735 needed treatment; 6,111 suffered from malnutrition; 37,638, or 38 per cent, had enlarged glands; 30,789 had defective vision; 11,805, defective breathing; 1,936, defective hearing; 38,991, defective teeth; 17,835 hypertrophied tonsils; 9,700, post-nasal growths; 1,635, heart disease; 1,027, pulmonary diseases; 1,947, skin diseases; 804, deformed spines; 555, deformed chests; 859, deformed extremities; 1,206, deformed palate; 2,427, bad mentality; and 1,772 had St. Vitus dance. Here is an appalling set of figures.

A very large proportion of children have defects in their make-up, but most of such defects are not immediately serious and are very easily remedied. These defects exist among children of well-to-do parents in about the same proportion as among those of the poorer classes. Inspections and examinations of this kind are of the greatest importance, and every educational body should at once take steps to remedy this condition and permit relief to be obtained, in order that backward children may profit by the newer educational methods.

The missionary work attempted by the various organizations before the Board of Education in Minneapolis last month, is worthy of support, but from the reception they received it is very evident that the educational movement should be first directed toward the members of the Board before the inspection of school children begins.

The plan presented was an exceedingly conservative one. It entailed no expense, offended no one, and was to be carried out by a corps of physicians who stand high in the profession, but the Board did not have the courage to accept the offer. It is fair to say that a minority of the Board favored the plan, but the majority overruled the proposition. One concession was made only, to permit the organization to instruct the parents as to the general plan! It is time that the people showed a more lively interest in the work of this Board. Too much attention is given to the commercial and financial side of educational methods, and too little to the actual necessity

of child-life. As usual, there is too much politics, and the one-man power is still the controlling feature.

If the Board would gracefully permit the proposed plan to be tried, instead of evasively endeavoring to crush needed reforms, it would put itself on a higher plane than it now occupies.

DR. Z. G. HARRINGTON

On the evening of Dec. 2, 1907, many old friends in and out of the Minnesota Valley Medical Society gathered about a banquet table to celebrate the fifty years of medical practice in the life of Dr. Harrington, who is now 77 years old and still in the practice of his profession. Dr. Harrington was eulogized and complimented and finally presented with an artistic loving-cup by his older friend, Dr. C. F. Warner, on behalf of his friends.

Dr. A. C. Wedge, of Albert Lea, another old-young man, was there to show how well preserved medical men may be who work hard for more than fifty years in their profession.

It is amazing to see how much real grief and work a medical man will endure and yet be ready to go on for more than fifty years full of courage and confidence born of long experience.

Dr. Helen Hughes read a poem written for the occasion. It will be found on another page.

The meeting and gathering was an inspiration to younger men who have not lived even one-half or one-quarter of a century. Dr. Harrington is a bright example of a comfortable and coveted old age to which all earnest men should aspire.

THE JOURNAL-LANCET, and its editor, who has known Dr. Harrington for twenty-five years, or more, extend to him hearty greetings and congratulations with the hope that more years of peace and happiness may be his.

A NEW MEDICAL JOURNAL

The trustees of the A. M. A., at a meeting in Chicago Oct. 25, announced the preparation and presentation of a new journal, to be known as "Clinical Medicine," and to be under the editorship of Dr. George Dock, of Ann Arbor. The first issue will appear early in the year, and the journal will be issued quarterly or bimonthly.

The journal is to be purely scientific and will occupy a distinctive place in medical literature. Only articles on original research will be accepted. It will not interfere with any of the journals in the field, as its scope will be limited. No advertisements of any kind will appear in any issue.

REPORTS OF SOCIETIES

HENNEPIN COUNTY SOCIETY

A regular meeting of the Society was held December 2d. In the absence of the president, the vice-president, Dr. A. T. Mann, occupied the chair. There were 40 members present.

The Censors having reported favorably on the following applicants, they were duly elected to membership:

Dr. E. L. Meyer and Dr. H. Amanda Johnson.

Nomination of officers for the ensuing year being in order, the following were nominated:

For president, Dr. J. D. Simpson and Dr. F. A. Knights; for vice-president, Dr. J. G. Cross; for censors, Dr. J. F. Corbett and Dr. C. D. Harrington; for executive committee, Dr. S. M. White and Dr. H. B. Sweetser; for trustees, Dr. H. L. Staples and Dr. T. F. Quinby; for delegates, Drs. L. A. Nippert, W. A. Hall, A. E. Benjamin, J. E. Moore, G. G. Eitel and J. W. Bell; for alternates, Drs. C. H. Bradley, A. S. Hamilton, J. H. Stuart, W. R. Murray, J. C. Litzenberg, and Jakob Hvoslef.

The scientific program being in order, Dr. Florence C. Baier read a paper on "Notes on 116 Cases of Diphtheria." The paper was discussed by Drs. L. A. Nippert, O. R. Bryant and E. K. Green, the discussion being closed by Dr. Baier.

Dr. C. H. Bradley read a paper on "Revival of Interest in Materia Medica and Pharmacy," which was discussed by Drs. J. W. Bell and C. E. Henry.

Specimens of gall-stones and large fibroid of the uterus were shown by Dr. A. N. Besessen.

Dr. E. K. Green reported the case of a woman whom he has delivered twice by the natural way, since Cæsarian section was performed for contracted pelvis.

C. H. BRADLEY, M. D., Secretary.

NEWS ITEMS

Dr. T. B. Francis, of Fairmont, has moved to Easton.

Dr. A. B. Cole, of Fergus Falls, will spend the winter in Texas.

Dr. H. E. Cleveland, of Osakis, has moved to Burlington, Wash.

Dr. Nelson Edgar, a Rush graduate, has located in Mahanomen.

Dr. George K. Hagaman, of Anoka, is doing post-graduate work in Chicago.

Dr. F. M. Archibald, of Breckenridge, has decided to locate on the Pacific coast.

Dr. W. A. Dorsey, of Baltimore, has joined the staff at St. Peter State Hospital.

Dr. W. H. Lane, of Miller, S. D., has been doing post-graduate work in Chicago.

Dr. John A. Healy, of Wheaton, will spend the winter in Texas on account of his health.

Dr. W. H. Holden has moved from Winnebago to Amboy, where he formerly practiced.

Dr. Eugene F. Murphy and Miss Jane Angela Kelly, both of St. Paul, were married last month.

Dr. J. H. Higgins, of Rockford, has located in Minneapolis, and has offices at 2302 E. Lake street.

Dr. A. R. Curtis, who has been practicing a short time at Kensal, N. D., has moved to Hannaford, N. D.

Dr. John M. Waters, one of the pioneer physicians of Montana, died at Bozeman, Mont., the last of November.

Dr. O. E. Linjer, city physician of Minneapolis, died suddenly of heart failure, on Wednesday, December 11.

Dr. W. T. Leonard has moved from Beaver Creek to Langdon, where he will spend most of his time on his farm.

Dr. W. B. Morley, formerly of St. Paul, died last month at Shell Lake, Wis., where he was conducting a sanitarium.

Dr. John G. W. Flavens, of Philadelphia, Pa., has become the assistant of Dr. R. J. Sewall, of Cloquet, in hospital work.

Dr. A. A. Westeen, of Grand Forks, N. D., has returned from a year's trip in Europe, most of his time being spent in London.

Dr. W. E. McLaughlin, who recently sold his practice at Willmar, is in New York City, taking a post-graduate course in the eye and ear work.

The Minneapolis Board of Education has decided to give medical examination of school children a trial. The plan will be tried in three large grade schools.

Dr. J. L. Shellman, of Nashwauk, was married last month to Miss Ethel Claire Dann, of Clark, S. D. Both Dr. Shellman and Miss Clark were graduates of the State University.

The emperor of Germany has conferred upon Professor Koch the title of "privy councillor" for his distinguished services, particularly because of his discovery of the bacillus of the "sleeping sickness."

Dr. W. H. Darling, assistant superintendent of the St. Peter State Hospital, will spend several months in Europe, visiting the larger hospitals and doing special work at Vienna in nervous and mental diseases.

Dr. C. J. McGurrin, of Larimore, N. D., has moved to Devils Lake, N. D., and gone into partnership with Dr. W. T. Flynn of that place. Dr. McGurrin will be succeeded by Dr. J. McD. Oswald, of Osnabrook, N. D.

A physician in a small town in North Dakota went to the theater with his wife, and upon his return found his residence had been robbed of jewels valued at \$1,500 and a fur overcoat worth \$300. This is interesting!

The surgeons of the Soo Line have formed an association with the following officers: President, Dr. C. D'a Wright, Minneapolis; vice-president, Dr. G. W. Matchan, Bismarck, N. D.; secretary-treasurer, Dr. R. E. Farr, Minneapolis.

Dr. Otto Quitmeyer, of Parkers Prairie, died on Dec. 1st at the age of 31. He was a graduate of Hamline, 1902. After spending a year in Asbury Hospital, Minneapolis, Dr. Quitmeyer located in Parkers Prairie, and soon enjoyed a large practice.

The new dormitory for nurses at the Fergus Falls State Hospital is a beautiful building, a credit architecturally to the state, of handsome interior finish, complete in its appointments, and a fit home for nurses; and all this can rarely be said of such buildings.

Dr. George R. Patton, of Lake City, has retired from practice after active and continuous work for thirty-eight years. Dr. Patton has contributed a number of practical and valuable articles to this journal, and no one ever gave better advice to young physicians. He made a handsome fortune in practice, and at the same time did honor to the medical profession.

The Northwestern Railway Surgeons Association, representing the railway surgeons of the Northwestern Line in Minnesota, South Dakota, Wisconsin and Illinois, was formed at Huron, S. D., last month. The following were elected officers for the coming year: President, Dr. J. L. Foxton, Huron, S. D.; first vice-president, Dr. H. W. Sifton, Milwaukee, Wis.; second vice-president, Dr. W. J. Mayo, Rochester, Minn.; secretary and treasurer, Dr. H. E. McNutt, Aberdeen, S. D.

The physicians of Mankato, on Dec. 2d, gave a banquet to Dr. Z. G. Harrington and presented him a loving-cup as a testimonial of their appreciation of his persistent devotion to high principles during his practice of medicine for fifty years. Dr. Jones, the editor of the JOURNAL-LANCET, acted as toastmaster. Among the speakers were Dr. E. J. Davis, of the Soldiers' Home, Minneapolis; Dr. A. C. Wedge, of Albert Lea; Judge Cray, of Mankato; Mrs. Dr. J. H. James,

of Mankato; and Dr. C. F. Warner, of Mankato, who made the presentation speech. Dr. Helen Hughes, of Mankato, read a poem written for the occasion, and it was a poem worth while. Dr. Harrington made a charming response.

The twenty-eighth annual meeting of the Minnesota Valley Medical Society was held at Mankato on Dec. 3d. The attendance was large, and the papers of a very high order. Dr. Frank Billings, of Chicago, gave a clinic on diseases of the stomach; Dr. J. H. Adair, of Owatonna, read a paper on "The Man with the Prostate," which was highly complimented, especially by the surgeons; and Dr. Charles Lyman Greene, of St. Paul, presented an excellent paper on "The Value of Blood Examinations." The officers elected for the coming year are as follows: President, Dr. F. A. Dodge, Le Sueur; first vice-president, Dr. G. H. Leudtke, Fairmont; second vice-president, Dr. A. F. Strickler, Sleepy Eye; treasurer, Dr. G. F. Merritt, St. Peter; secretary, Dr. A. G. Liedloff, Mankato.

FOR SALE

Being obliged to retire from practice because of poor health, I will sell my drug-store and practice, which pay between \$2,500 and \$3,000 net profit, and can be made to pay much more by an active man. Stock of drugs and fixtures invoice over \$2,000. Will sell at liberal discount for cash. A good location in Southern Minnesota. Address S. D., care of this paper.

FOR SALE

A large compressed-air tank nebulizer and spray attachments. Price, \$50; cost, \$75. Call or write Dr. Samuel Musgrave, Room 204 620½ Nicollet Ave., Minneapolis.

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A good practice, with small drug-store, paying well, in central Minnesota. Population, Scandinavian, German, and American. I will retire. Address N. M., care of this office.

TO THE PROFESSION—X-RAY LABORATORY

I have a well equipped x-ray laboratory, rooms 214-218 American National Bank Building, corner Fifth and Cedar streets, and am prepared to do your radiographic or Roentgen-ray therapeutic work.—W. S. FULLERTON, M. D., St. Paul, Minn.

PHYSICIANS' ATTENTION.—Drug-stores on easy payments, etc. Drug-store positions, United States or Canada. F. V. Kniest, Omaha, Nebr.

DOCTOR: If you want practical post-graduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box, 797, Post-Graduate Department, Tulane Medical College.

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